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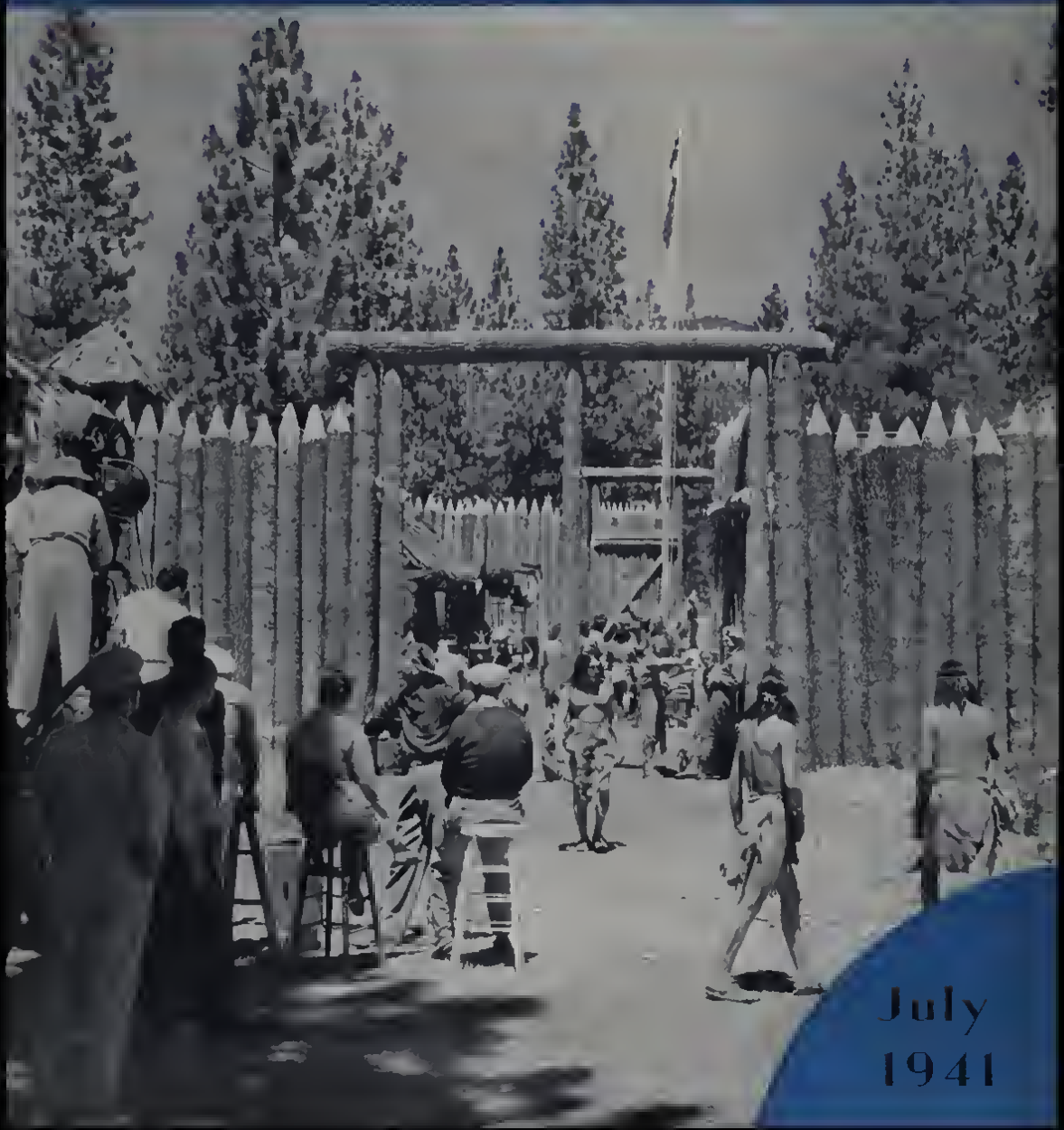
THE MOTION PICTURE CAMERA MAGAZINE ☆



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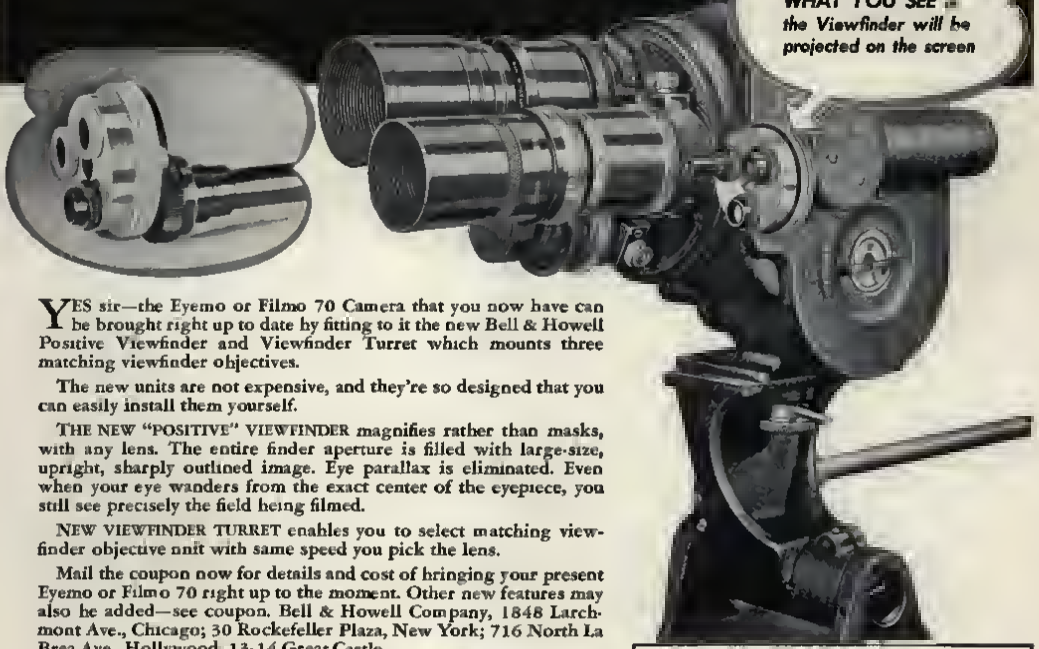

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AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

VOL. 22 JULY, 1941 NO. 7

CONTENTS

The Front Cover

On this month's cover Milton Krasner, A.S.C., is seen making a scene for Universal's "This Woman Is Mine." Note use of "booster" lights inside the stockade. Still by Eddie Jones.

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I win a bet from Billie— the Script Girl!

"Cut," says the Director, and then he turns to me. "How do you like it?"

"I'll buy it," I say.

"Okay, print it."

Then Billie looks up and says, "I've been a script girl for five years and I've never seen anybody shoot into a weak light like that and come out with anything worth printing."

"Want to bet?" I ask her.

"One steak dinner," she says.

"It's a bet."

Next afternoon we see the rushes. Billie gasps. The Director gasps. Even I gasp . . . and everyone wants to know how we ever did it.

"I shot it on Agfa Supreme," I tell them.

And I win the bet with Billie!

• • • •

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Frame enlargements from 35mm. tests illustrating use of 20th Century-Fox Cloud Machine. The Cloud Machine itself is shown on the opposite page.

Clouds Made to Order

By CHARLES G. CLARKE, A.S.C.

PROBABLY one of the most uncertain elements of exterior photography is the assurance of obtaining clouds. It is well recognized that a landscape with a cloud-filled sky is far more beautiful and interesting than the same view without them. In some instances motion picture companies have been compelled to wait for long periods on location, at considerable expense, for clouds to put in an appearance. Quite frequently locations are chosen especially because climatic conditions may indicate that pictorial clouds are likely to be on hand. Very often the clouds are not in the right place when the scenes must be photographed, and in a day's work some scenes may have clouds in them and others, in the same sequence, are "bald." After the production is assembled these cloudless scenes are inconsistent, and in many cases are sent to the special-effects department to have clouds duped in. The budget of the general run of pictures does not permit of waiting for clouds nor the expense of having them put in later, so the cinematographer on those productions ventures to the location invoking the blessings of the fates; tenderly stroking a rebbit's foot; assuring those who will listen of the clean life he has led, or whatever his particular approach to the problem may be. He well knows that he will be obliged to shoot, and that the results will be disappointing. To the Production Office he is a great photographer if he has clouds and an impostor if he is not so fortunate as to be favored with them.

In view of this situation, I have long been pondering what could be done about it. For some years I have been cutting neutral density gelatine filters, which properly placed in the matte-box so as to come over the sky area of the scene to be photographed, resulted in a passable cloud effect. The thought occurred to me that if a filter, used so close to the lens, could produce that effect, a transparency containing the photographic image of real clouds, placed far enough away from the lens so that definition could be carried, would be more satisfactory.

In 1939 experiments were made, the results being so satisfactory that the Camera Department of the Twentieth Century-Fox Studios has since built three complete outfits for producing these synthetic clouds. For some time now this system has been in actual use on regular production, and many pictures using it have been released, including "Brigham Young;" "Hudson's Bay Company;" "Romance of the Rio Grende;" "The Cowboy and the Blonds," and many others of the "Cisco Kid" series which contain cloud scenes made by this manner.

At first flat glass plates were used which permitted only stationary set-ups, that is, the camera could not be panned. Later a panoramic device was invented, with suitable flexible transparencies, so that panning shots were possible. This later device has almost replaced the stationary equipment, for stationary scenes may be made with the panning equipment just as readily as those scenes where the camera is panned across the plate.

The invention works on the theory that a transparency placed before the sky area of a scene is printed upon the negative by the "beld" sky. In other words, the expanse of sky is a printing light which is modulated by the graduations of the transparency placed between it and the negative material. The whitest portion of the "cloud" is simply the bald sky, while the areas between the "clouds" are held back according to the density of the transparency. Naturally the density of the transparency is quite important, as is the selection of the cloud-scene to be used. In making the transparencies it is more practical to select negatives that have been photographed with good filter correction. These are enlarged to the proper composition on the plate, the lower part being "dodged off" so that a gradual blend exists between the sky area and the lower part or clear area where the foreground of the final composite scene will later be placed.

In use, this transparency is placed some 18 inches from the lens, preferably a wide-angle lens, properly focused and arranged so that the transparency fits into the composition of the scene. Exposure is determined to take full advantage of the smallest stop possible, in order that the transparency and the setting may be in relative focus. In ordinary light, stops of f:14 to f.18 are quite usual with Background-X or similar speed film. In the event the light-value does not permit these stops with that speed of film, then of course the faster films are used.

As the sky acts as the printer, no form of sky-correcting filter may be used, for such filters darken the sky and thus destroy the brilliancy of the "clouds."

The exception to this rule is with the combination 23A plus 56 night-effect filter. My experience is that this may successfully be used and the cloud rendition is very natural. The clouds are not as brilliant as for a day scene, which is exactly as it naturally should be. Because the sky acts as a printer it is not necessary that the sky be blue. On those days where there is much aerial haze and the sky is white, the cameraman equipped with this invention

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CHINA'S WARTIME CAMERA-ACES

By FATHER CHARLES MEEUS

Photos by Thomas Kwang, Chunghing

WHEN I left Hollywood with its army of glamorous camera people in June a year ago, it was with a definite promise to THE AMERICAN CINEMATOGRAPHER that the year would not end without my sending in a fine photographic story from China. I anticipated a thrilling "adventure-in-Kodachrome;" I was well equipped with "backlog of quality" Kodak material and with cine-cameras that would "keep pace with my skill," as the Bell & Howell people so flatteringly put it. In short, I planned on a "first person singular" story about what I would do with Filmo and Kodachrome.

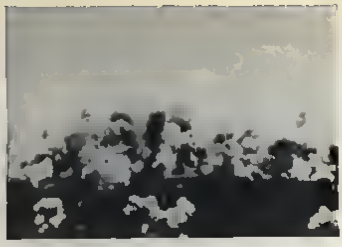
But when the big Chinese plane with a last roar of its engine dropped me on the good, free soil of West China, it dropped me right into a very different story—a story infinitely bigger than anything I could write about my own filming: the story of what China's little band of heroic camera aces are doing for love of their country. How, under gunfire and bombings, at the risk of their lives, they are plying their still and cine cameras to show to China's re-born millions what the new-found will to resist is accomplishing in the face of invasion, and to show tangibly to the outside world at large how China is fighting back with men and machines—and preparing in times to come to fight back more and more strongly.

The day I arrived in Chungking was the "double-ten" October anniversary of the founding of the Chinese Republic in 1911. Unaffected by the certainty of a menacing "ching-bao" (air-raid alarm), a huge parade through the streets of the city had been organized.

I watched them march by, the boys of China, singing and cheering, and my camera clicked to the rhythm of their steps. I watched the little girls march past, singing songs of hope and resistance . . of reconstruction. Adorable little kids—Girl Scouts in neat green uniforms—lean, sturdy Boy Scouts in Khaki. I found myself caught in the delirious crowd of blue-clad countryfolk who had come into the city for this celebration; we passed under huge arcades of flowers and inscriptions that had been erected for this day of jubilation.

Closer and closer, though, came the air-raid alarms—Chungking always has two hours' notice of raids, for there are but two routes the raiders can take, and reports from spies watching the enemy air-fields, and from spotters as the planes enter Szechwan Province give ample time for everyone to get to safety in the caves and shelters hewn in the living rock, deep-buried beneath the mountains.

Church-bells started to peal—sirens to scream—and all of a sudden they vanished, those people of Free China. The



On Aug 12, 1940, 140 bombers dropped more than 3500 incendiary bombs on Chungking. Cameramen Warren Lee filmed the entire raid with his 16mm. Filmo, the film, from which this is enlarged, was developed within half an hour in the dugout-studio, and on the screen the next day.

streets were emptied: 400,000 people had gone to their dugouts, cut in the rock of Chungking, the impregnable!

I was directed by my guide to a nearby dugout in the slope of a hill. As I rounded the protective curb of the entrance where a soldier stood on duty, in the darkness the sudden glare of a powerful lamp caught me unawares. To my amazement I found myself standing in front of a professional cinema troupe, shooting a movie-scene in the dugout! There, undisturbed by the Nipponese, they were fighting back with pictures intended for consumption among the brave people of China! They were none other than the official cameramen of China, to whose studio I had been guided in thoughtful attention by my good Chinese friends.

I was introduced to them, and here is what they told me. "The terrific pick-up that China's system is delivering in the present emergency is inseparably interlocked with the education that the people behind the front lines are getting of the process—and progress—of our war of resistance.

"There, where daily life brings them only the vision of ruined villages and homes, of maimed and dying victims of the war—where, far from the actual fighting front, they may see little or nothing of what their country is doing to fight back, and only get the visits of Japanese airplanes to remind them that any war is going on at all—they still have to participate efficiently in the resistance and reconstruction program of China. And there—pasted on walls—printed in their daily newspapers and magazines—projected sometimes on a screen white-painted on living rock—they find still and motion pictures of China's problems, and what China and her people are doing to overcome them. Photography is indeed playing a great and vigorous part in the war of resistance.

"Tonight," he added, "We're going to cover a night celebration . . a photographic pain in the neck, but we always manage to make it somehow without fleshbulbs or photofloods if we can."

"One picture is worth ten thousand words," said the ancient sage of China—and these young men, the gallant, resourceful photographers of Free China, are daily proving it.

As he turned back to his work, I wandered through the underground studio, constantly amazed by what was being done. Here, a movie unit filmed 16mm. sound-films, gleefully keeping the cameras turning even though Japanese bombs were falling like deep-voiced rain on the rock overhead, making the entire mountain shake. There, another group was making animated cartoons, in which oriental cousins of Hollywood's Mickey Mouse preached the doctrines of patriotism and resistance.

In another rock-hewn room, still photographers were calmly developing negatives, prints and enlargements, dextrously using chopsticks as print-tongs. I went to the washing-tray and turned over a few wet copies of the latest prints. They showed a few pictures of bombings and big fires—action-shots if there ever were any: "the terrific heat of those fires scorched our skin and our cameras," they told me.

There were pictures of the other side of things, too—enemy planes brought down by the air defense—captured materiel—and all the little what-nots people behind the lines like to see.

As I looked, they brought in a sheet of Kodak Universal Broma, still dripping from the hypo-tray. I gave a "Wah!" of delight, for it was a picture that showed what we so often hear about, but seldom see picturized—China's resources. "When the people in the rear see that one," said my friend the photographer, "they will realize this good land of ours is worth fighting for! They'll see why the Japanese are bent on conquering our land for its resources—look at this great fleet of trucks being loaded with tung-oil to start its long trek down the Burma road to an American port!

"And at the same time, I hope they'll realize that all the sacrifices they may make for the coming victory are worthwhile!"

But what they won't see is what these men go through sometimes to get these photographic boneys. Outside, the roar of enemy planes was making an awful racket, anti-aircraft guns were barking with their peculiar staccato chatter. As I turned around in the cave that was shaking with the concussion of heavy bomb-explosions, I saw these men, calmly going on with their work—undisturbed and concentrating on their job for the salvation of their country.

And right then, I made a wish—I wished that the whole world of photographers might know more of these, their heroic Chinese confrères, for in this crazy world of ours the common brotherhood of photography is a true entity, such as is the brotherhood of painters and sculptors. And that is why I am writing, not a story of myself and my own pictures, but a record of these men of lens and shutter—these camera-aces of New China who through these years of war, with the simple click of a tiny button, sometimes at the peril of their lives, are working not only for their

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Top: At the front soldiers and cameramen alike wear "tin hats" and gas-masks, second for close-ups of the enemy, Chinese cameramen steal perilously through the barbed wire, the camera is a Filmo; middle: shooting the sentry—with a Bolex; below: camera in hand, they sleep on floors . . . in stables; the camera is an Eyemo, bottom: making animated maps in the dugout-studio during an air raid; the camera is a Cine-Kodak Special.

An Artist Looks at Technicolor Cinematography

By BUCKLEY MAC GURRIN

NOW that Technicolor features have been produced in sufficient numbers to be accepted more or less as a matter of course, the motion picture has reached its maturity. Color was the only element of the work of art which was previously lacking. Now the rounding-out process is complete, and we are in possession of an art form capable of the greatest refinement. It is a genuine art form, too, because it possesses the essential which has determined the authenticity of all the art forms which have preceded it; namely, it is technically compatible with the age that produced it, and contains within itself the resources necessary fully to express the ideology of that age.

As a practicing artist I am naturally inclined to see everything both in nature and in society in terms of art. At the same time I am aware that a great many people in the motion picture industry are mightily suspicious of the word. Nor can they be blamed, since "art" in their experience has, unfortunately, been too often converted into "artiness," with all the gauzy, static, ponderous, unintelligible consequences which follow. But, so far as that is concerned, the same sad truth obtains in my own field. God knows there are at any given moment miles of gallery walls covered with paintings which are "arty" and not "art." This fact in no way alters the necessity for a rigorous application of the laws of art in order to produce a good painting, and it is also true that a good motion picture can only be produced by the same means.

All of the elements which enter into the production of a painting are functional. Their function is to produce a harmony, and the nature of the harmony to be produced is determined by the painting's basic significance. A motion picture deals with many of these same elements plus others which are peculiar to motion pictures. When these elements are perfectly harmonized, the picture as a work of art approaches perfection. Whether or not it is a *great* work of art then depends on the great basic factor: its significance. But even though this significance may not be really great and sublime, its perfect expression is still bound to be deeply moving. It is when one of the elements is stressed to the disadvantage of the others—that is, when the perfect equilibrium is destroyed and the complete expression thereby rendered impossible—that art pops out of the window and artiness comes in. And that means boredom.

With some such distinction in mind, there should no longer be any conflict between a film's "entertainment value" and its value as a work of art. And I don't think that such a conflict exists today so far as the cinematographers are concerned. The major evidence of this fact is the ever-increasing co-ordination between photography and the other elements in the pictures one sees, plus the articles in the AMERICAN CINEMATOGRAPHER where so much stress is laid upon the importance of subtle interpretation via the camera of what may truthfully be called psychological aspects of the problem, as distinguished from the purely technical preoccupations which, once upon a time, kept the boys behind the camera busy, if not happy. I suppose the public is not yet fully aware of the debt it owes the A.S.C. for the long battle to so influence the industry as at last to be able to participate properly in the preparation of shooting scripts, sets and costumes. But the results of the victory are well in evidence today, and the public will certainly not be tardy in recognizing the cinematographers' contribution to their greater enjoyment.

The necessary expansion of the cinematographer's artistic equipment to include the vast resources of color was admirably illustrated by Rouben Mamoulian's interesting article in the AMERICAN CINEMATOGRAPHER for June. Until recently there has been a point at which the black-and-white photographer and the creative painter had necessarily to part company; the psychology of color was, obviously, a level upon which they both could not meet. Composition and mood-lighting were their common property, and the cinematographer was highly skilled in guaging the relative impact of objects as they would appear in the gamut from black to white. Like the painter, too, he could manipulate his contours over a wide range, from extreme sharpness to extreme diffusion, and he used this resource with much cunning. But color has always been at least as eloquent a factor in expression as form has been. To say that it has been a greater factor would, perhaps, be a controversial statement, but it cannot be denied that color allied to form produces the maximum effect on the beholder.

So long, therefore, as color was denied the cinematographer, his art was necessarily incomplete. Now it is here, no longer on probation, and hence, as I said at the beginning, the motion picture can now be considered a complete art form. Not the least remarkable feature of this development seems to me to be the fact that, coincidental with it, the cinematographer has become the Director of Photography, and by that fact is able to exercise the control of color which its successful use requires. Now we must see whether the Director of Photography can absorb the science of color and use it as skillfully as he has previously handled the black-and-white range.

No pessimist, I am yet not sure that this important and difficult task will be easily accomplished. My own long struggle to sensitize my eye to subtle color differences is still painfully fresh in my memory, and what facility I did acquire was achieved by actually breaking down the color and reproducing it by painting from nature. What I have subsequently learned about its suggestive power, its poetical implications and symbology is still another complicated and arduous process.

Perhaps the cinematographers, although accustomed for years to transposing color into black-and-white, will find some quick substitute for this typical artist's experience. But it would seem that now, more than ever before, there is a potent reason for a close collaboration between the cinematographer and the creative painter.

When Mr. Mamoulian was still making "Becky Sharp," and the cine-world was waiting the picture's release with all sorts of mixed emotions, it seemed to me that the moment was already at hand for such a collaboration. I remember talking with Paramount's Hans Dreier at the time; I thought that henceforth a new set-up would be necessary in all the studios, with a color-supervisor transposing the script at once into terms of color and then working in close collaboration with every department concerned.

This procedure is essentially the one Mr. Mamoulian described in his article relative to "Blood and Sand." His solutions of the problem of controlling color for dramatic effect were highly ingenious, but, however novel they may appear in connection with the cinema, they are nearly all quite orthodox mechanisms for the well-informed artist. It is permissible to assume that Mr. Mamoulian is exceptionally well-informed concerning color as it has been used by the great painters of the past, and that not all of his fellow directors are so equipped.

No artist could be insensible to the compliment Mr. Mamoulian paid his profession by this tribute to Velasquez, El Greco, Murillo, Titian, Paolo Veronese,

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Using Arcs as Boosters

By MILTON KRASNER, A.S.C.

THERE'S nothing particularly new about the idea of using studio lighting-units in place of reflectors when filming exterior scenes. We've been doing it for twelve or fourteen years to such an extent that today it is entirely conceivable to see a major studio production unit going out on location without even one of the once indispensible reflectors, but seldom, if ever, without at least a few Mazda boosters.

But during the past few months I have been wondering if we were making the best choice from the available light-sources when, as most of us do, we employ incandescent reflector-spots for this service. It has seemed to me that in filming black-and-white exteriors, we might do very well indeed to take a leaf from the Technicolor cinematographer's book and use modern arc spotlights as booster-light sources.

The Technicolor cinematographer, of course, chooses arcs for this work because he almost has to, and because they are inevitably available in quantity when any Technicolor production is being made. As is well known, the modern arc spotlight, when equipped with its "Y-1" straw-colored filter, produces light that exactly matches the color-composition of normal daylight. Therefore it can be freely mixed with daylight in almost any conceivable way, always producing a chromatically natural-colored effect in the Technicolor shot. An ordinary, unfiltered incandescent lamp, on the other hand, emits a ruddy glow which, in a color-shot, would produce on the faces of the players an effect rather like that of the late-afternoon sun. This would obviously be incongruous with the rest of the scene normally illuminated.

The same thing is happening, of course, when we mix daylight and incandescent booster light in filming black-and-white exteriors. Naturally, since the picture is in black-and-white, it doesn't show up so prominently; besides, we are accustomed to it, and not consciously looking for it. But it is there!

Theoretically, this warmer-toned light can produce a definite, if not always immediately noticeable filtering effect on the faces we are photographing. Like a yellow filter, it can lighten face-tones, and minimize the tonal separation between faces and lip-makeup.

Therefore on my last several pictures I have been, as occasion permitted, making experiments with the use of modern arc spotlights as boosters. The results so far have been gratifying.

The most convenient units for this use, I have found, are the comparatively small 65-Ampere Fresnel-lensed high-intensity arc spotlights recently evolved for Technicolor use by Mole-Richardson. Most studios are acquiring these lamps lately, for even though no Technicolor productions may be immediately scheduled, they are proving very useful for effect-lighting in monochrome at the lighting-levels generally used with today's fast films. Their beams are smooth and accurately controllable — distinctly better than those of the reflector spotlights so often used as boosters. And they are compact and convenient as location equipment.

Used with the straw-colored "Y-1" filters, or even a slightly warmer-toned amber one I've found to be somewhat preferable, their light makes an excellent blend with normal daylight. It can be used perfectly for filling in shadows when direct sunlight is used for the highlight-side. Working in the shade or under scrims these filtered arcs, properly flooded and diffused, can take care of all the front-lighting, and still blend naturally with the natural illumination. Without their filters, or with lighter ones, they can often produce an illusion of direct sunlight when this is necessary.

There is another very definite advantage to the use of arc boosters: they are much easier on the actors. Probably the fact that an incandescent lamp is easier to look into than a dazzling reflector had as much to do the swing from reflectors to boosters as did the more purely technical factors of greater dependability and control. This naturally become increasingly important as film-speeds have progressively increased, making it possible for us to use less and less light on the interior sets. Actors' eyes, accustomed to facing this comparatively low-intensity illumination in the studio, and to wearing smoked glasses outdoors when not working, as so many of them do, are naturally not conditioned to remain natural when faced by a battery of glittering reflectors. According-

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MARINES MAN THE MOVIE CAMERAS

By SERGEANT ALFRED W. ROHDE, JR.

U. S MARINE CORPS, PHOTOGRAPHIC SECTION

AS Adolf Hitler's mighty war machine rolled across Poland late in 1939, trained military motion picture cameramen kept pace with the German armies, recorded on film every detail of the attack. Not only did their pictures show Germany's tactical coups and Poland's blunders, but after careful editing they revealed, *dramatically*, the methods of the modern German "blitzkrieg" type of war. Invaluable in training young officers and enlisted men of the Reich army, the pictures proved to be a potent, awesome force when they were exhibited to the high commands of Norway, Denmark and the Low Countries just before the Nazis subjugated those helpless nations. Under the American title "Baptism of Fire" a portion of these films have been included as evidence of the brutality of Nazi Germany in the March of Time's powerful feature "The Ramparts We Watch."

Under the new system of selective compulsory military training, we are building our Army, Navy and Marine Corps to a full emergency force. Speed is essential in training these men to the uses of modern warfare, and it is believed that the use of military motion picture films—a visual aid in the school of the soldier—will prove an effective time-saver. Both the U. S. Navy and U. S. Army have long maintained motion picture photographic sections, but not until May, 1940, did the Marine Corps start laying the foundation of a Motion Picture Photographic section. The purpose of this projected section will be to photograph every training activity of the Marine Corps in peace and in war. But its films though edited with "punch" and "effect", will not have as its aim, as did Hitler's "Baptism of Fire", the "softening up" of the military and civilian populations of helpless nations. Its purpose will be to make films which will enable the Marine Corps personnel to be accurately informed of the latest methods on modern warfare.

The purpose of training films will be to serve as an aid to the training instructor and not as the sole means of instruction. By presenting on the screen a subject which is under discussion in the classroom, it is hoped that the use of films will materially shorten the time required by other methods of instruction in a given subject.

It is believed that the most effective uses of training films will be to show: (1) events that will occur over widely scattered areas in dangerous zones, or view from positions where it is impracticable to take observation groups, demonstrations of a costly nature or restricted to performance in distant or inaccessible localities. The main point in this latter is that the demonstration can be illustrated repeatedly without additional cost, or brought to groups at a distance from the place where such demonstrations can be given, (2) functioning of enclosed parts, (3) invisible processes, of technical or tactical subjects.

The production of these sound motion pictures involves the practical application of many physical, chemical, and psychological laws; the applicable principles of optics, acoustics, light, precision mechanics, electrical amplification and sound reproduction, together with the complicated chemical and physical processes of picture development and reproduction.

In addition to these purely technical phases, personnel engaged in the creative phases of motion picture production such as, scenario adaptation, direction, cutting, editing, and animation, must have an understanding of the psychological factors involved in motion picture technique.

In order to make these educational motion pictures of substantial value to

On opposite page, left: Sgt. Alfred W. Rohde, Jr., USMC (left) with Eyema in hand, discusses an aerial shot with a Marine Corps Parachute Trooper during the making of "From Ships of the Sky," publicity short for Marine Corps Parachute Section. Center: Filming a close-up of a marine in battle dress for a Marine Corps Training Film. Lieut. W. Helpurn, late of Hollywood's film industry, directs, while Staff Sgt. Rogers and Sgt. Rohde man the Mitchell. Right: The Marine Corps Photographic Section's motion picture production staff at work in the field making a training film. To the right on this page Staff Sgt. Rogers (left) and the author are seen at work in the field. All photos by U. S. Marine Corps Photographic Section.

the Marine Corps, personnel on the creative tasks must also have sufficient military and technical training to achieve a balanced perspective and to correlate all these varied factors.

Training films produced by this section will be divided into the following general classifications:

(a) *Mechanical:* Subjects in this class explain the mechanical functioning or operating characteristics of weapons, material and equipment, illustrate the organization or equipment of units and explain physical or chemical phenomena of military value.

(b) *Technical*: This class of picture illustrates the use of weapons and equipment, and the actions of an individual or of a group in performing an operation or a series of operations with a discussion of factors involved.

(c) *Tactical*: This class of picture illustrates the application of the basic principles of combat tactics of the different arms and services as set forth in the authorized Training Regulations and Manuals. It is usually based on a situation requiring a decision and plan of action. In general, because of the audience groups for whose instruction the picture is intended, the combat principles governing the employment of small tactical units are considered more suitable subjects for this class of film.

(d) *Skill*: This class of picture is used to permit development of skill in an individual who is required to perform certain actions while observing action portrayed on the film.

To acquire the technique of producing motion pictures the Major General Commandant, in May, 1940, assigned two men to special detail at the March of Time studios, in New York City. There, in a "training school", conceived by Producer Louis de Rochemont, Staff Sergeant John Rogers and the author took a nine-month course in up-to-date cinematogrsphic reporting. Mr. de Rochemont, who, in the March of Time, evolved modern screen journalism, was for seven years an officer in the Navy, during and after the last war, and is an ardent motion picture photographer.

To him goes the greatest credit for the development of motion picture sections in the U. S. Coast Guard, U. S. Navy and the U. S. Marine Corps. He has long recognized the value and importance of photography in all phases of military operations and activities. He has also been working continuously with the officers in charge of these sections to organize complete, effective and well equipped photographic units. At the present time he is training in his school 21 specially-qualified enlisted men from these branches of the services.

Captain Wallace M. Nelson, USMC, who is the Officer in Charge of the Marine Corps Photographic Section, has received his special training with the U. S. Army Signal Corps Photographic Section, in Fort Monmouth, New Jersey. The section has its headquarters in the Marine Corps Schools, in Quantico, Va. And with a nucleus of two March of Time-trained men is building an able and efficient detachment of official cinematographers that is making an important, though small, contingent of the Marine Corps. Their future assignments will take them on the land, on the sea, and up into the blue heavens of the sky. There will be hardly any medium that will not respond to the searching conquest of their relentless lenses.

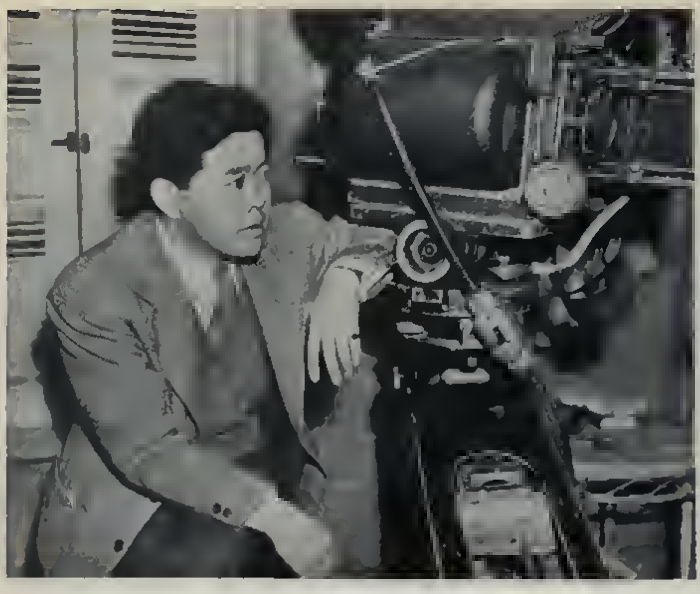
During the past summer of 1940, we produced our first motion picture. Which depicted a typical day in the life of a "Leatherneck" of the New York World's Fair Detachment located at Camp George Washington. Working on our own, without the aid of an instructor, we put to practical use the knowledge which we had gained from our studies at the March of Time.

The film covers all the events of the day, from the raveille bugle at sun-up to the soothing call of taps. Some of the outstanding scenes from the picture were made at the Court of Peace and show the nation's crack drill team and the drum and bugle corps going through the paces which have brought them praise and admiration from the Marine Corps, as well as from the thousands of World's Fair guests throughout the summer.

This first short subject, which will have the title of "World Fair Marines", was co-photographed, and edited by Staff Sergeant Rogers and myself. It has been screening throughout the Marine Corps and general public within the last few months.

We believe this graphic motion picture record will mark another milestone in the continued advancement of the United States Marine Corps.

The author wishes to express his appreciation for the many helpful suggestions and the cooperation of the U. S. Army Signal Corps in assembling this material.



Aces of the Camera

VII:

JAMES WONG HOWE, A.S.C.

By WALTER BLANCHARD

THE fact that James Wong Howe, A.S.C., is Hollywood's only Chinese director of photography is of only secondary importance. What is really significant is that, without reference to race or any considerations other than what he puts on the screen, he is universally recognized as ranking high among the half-dozen greatest camera-artists of the world. And he has held that ranking for close on twenty years.

Psychologists who debate the respective influences of heredity and environment would find endless interest in Jimmie Howe, who is at once oriental and occidental. Born in the Chinese province of Kwangtung, he came to America as a child when his parents came to the Pacific northwest. There, young Wong Tung Jim captivated the attention of a well-to-do Irish-American family, and his early years were spent largely in this far-from-Chinese environment. As a result, Howe's character is a curious blending of the best qualities of the Irish, the American and the Chinese, overlaid and interwoven to produce a thoughtful and sensitive artist, combining the keen imagination of the Irish, the directness of the American, and the Chinese passion for simplicity and good taste.

The latter characteristic is perhaps most strongly marked in his approach to lighting. Recognized as an outstanding master of low-key lighting, he has an uncanny knack of getting the maximum effectiveness not merely from a minimum amount of light, but from a minimum number of light-sources.

"Why," he asks, "should we think our lightings have to be complicated? In real life, the lighting effects we see in a room or outdoors aren't complicated. Why should we, striving to duplicate their effect on the screen, inject added complications?

"Fifteen or twenty years ago, we had to, in order to get adequate exposure with the slow emulsions and lenses we then had. But today we have infinitely faster films, better lenses, and more efficient lighting equipment. Our photographic exposure-levels are drawing increasingly closer to the actual room-illumination levels whose effects we are trying to duplicate. We have an opportunity, therefore, to simplify our lightings, too, to a closer approximation of the realistic effects we want to reproduce.

"This matter of exposure-levels, incidentally, is something that can very easily be overestimated. Surveys have shown that cinematographers in almost every major studio may light at levels differing from each other by several hundred per cent—yet each gets satisfactory results on the screen. The real secret of lighting is balance: if you maintain the correct relative balance between highlights, intermediate tones and shadows, it does not matter greatly if you use a key-light level of 50 foot-candles, 100, 150 or even more.

"The advantage of using lower lighting-levels, as I see it, is this: employing less light, from fewer and smaller units, one is able to achieve a closer approximation of the actual effect he is trying to reproduce. He simplifies his lighting, and in the process, achieves better effects and gives the actors more comfortable and natural surroundings in which to work.

"Personally," he continues, "I like to approach lighting from the viewpoint of composition, rather than lighting. There is always one important detail of each composition which is the key to the whole meaning of the scene—and which can be the key to your lighting as well. Sometimes it may be the face of a principal player; sometimes it might be part of the set, or even a small hand-prop. Find that key detail, and make it the keynote of your composition. It will become the keynote of your lighting as well. Light it. Then light the people, striving for the simplest and most pleasing modellings. Then light the set as needed to complete your composition—and as your composition is completed, your lighting will be, too.

"With today's fast films, set-lighting can often be simplified to putting in the desired highlights where the composition needs them, and then letting the 'spilled light' from these units and those illuminating the people take care of most of the filler-lighting.

"I have found this particularly true in some experiments I have recently made with the use of Super-XX. Opinions as to the best way to utilize this

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The "Inkie's" Place in Technicolor Lighting

By ERNEST PALMER, A.S.C.

IT is only within the last year or so that incandescent light-sources suitable for use in Technicolor photography have been developed, and only within the last few months that they have been used to any great extent. Previous to that, virtually all Technicolor lighting—with, of course, the exception of warm-toned light-effects—had been done with arc equipment.

The reason for this is simple enough. When the present three-color Technicolor process was devised, its originators were faced with the commercial problem of making their process easily adaptable to both exterior and interior filming. In the previous two-color process, it had been feasible to make use of interchangeable filter-units within the camera, which could balance the color-response of the process to either the pure white light of daylight, or to the warmer light of Mazda globes. This was not considered practical with the three-color system. Neither was it practical to develop special film-stocks for interior and exterior use, as in the Kodachrome process.

Accordingly, the best solution was to standardize, at the start at least, on interior lighting of a color closely matched to the white light of normal daylight. Arc lighting offered the closest approach to this; the broadside floodlighting units, equipped with suitable carbons, gave light of a perfect daylight color-balance; the high-intensity spotlights, when fitted with a light straw-colored filter (the so-called "Y-1"), also matched daylight. The arc was also an extremely powerful light-source—an important consideration in view of the high lighting-levels needed for the early, slow-speed Technicolor film. Therefore arc lighting became the Technicolor standard.

The problem in suiting incandescent light-sources to Technicolor lighting was one of obtaining from this normally warm-toned illuminant a light of the blue-white color which matches daylight. This has been accomplished by a combination of two methods. First, special globes of the Photoflood type (known as the "CP" type, and operating at a color-temperature of 3380°K.) were developed. Second, the considerably whiter light of these globes was further corrected to the desired daylight-white standard by means of a special daylight-blue filter, mounted directly behind the lens of modern Fresnel-lensed spotlights. Developing a filter for this purpose, which would combine the color and the stability demanded by the Technicolor engineers was a problem; but that, too, has been overcome in the present Macbeth daylight filter.

From the practical cinematographer's viewpoint, this gives a range of perfectly-matched lighting units for use in Technicolor, which is unapproached in monochrome. The Technicolor cinematographer today has at his disposal lighting units ranging from the big 170-Ampere H.I-Arc spotlights down to the 750 and 500-Watt "Baby Kegs." And for normal effects, there is no question as to differing actinic effects from mixed lighting, for both arc and incandescent units are so accurately corrected to the same color standards that their beams may be mingled with no perceptible difference on the screen.

Perhaps the chief advantage of the incandescent spotlight in Technicolor lighting is that the Mazda globe, unlike the arc, will burn in virtually any position. An arc spotlight can of course be angled down sufficiently to provide normal set-lighting from an overhead lamp-rail on the other side of the set; but it is none too practical to angle them sharply downward to illuminate anything directly below the lamp. And it is virtually impossible to suspend an arc from a "trombone" or similar wall-hanger and point its beam directly downward to light an object or person close to the set-wall, as is so generally done with inkies. In the same way, while it would be difficult, if not impossible, to suspend an arc spotlighting unit on a rope directly over the center of the set, it can easily be done with a modern color-corrected inkie—and the result on the screen will be identical, regardless of which light-source is used.

Moreover, with the increased speed of today's Technicolor emulsions and processing, the smaller, lower-powered incandescent units, which previously had

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A.S.C. on Parade

Palmer, Rennahan Top Preview Poll

Two oustanding Technicolor productions battled for first honors in the May Hollywood Reporter Critics' Preview Poll. "Blood and Sand," photographed by **Ernest Palmer, A.S.C.** and **Ray Rennahan, A.S.C.**, finally took first place, with "Billy the Kid," technicolored by **Leonard Smith, A.S.C.**, and **William V. Skall, A.S.C.**, running second Third place went to **Robert Planck, A.S.C.**, for his oustanding black-and-white camerawork in "A Woman's Face."

Joe Ruttenberg, A.S.C., drawing the assignment to photograph the new Greta Garbo picture completes a clean sweep of MGM's big-shot contract list. He tells us he has now worked with every female star, every male star, and every director on MGM's impressive talent roster. Quite a record!

a

Add "power of the radio"—**Charles Lang, A.S.C.**, started blithely off on his vacation last month, accompanied by Mrs Lang Meantime, his bosses at Paramount had loaned him to Walter Wanger to film "Sundown," which troupe was already en route to Acoma Rock, New Mexico, for location scenes But—nobody knew where or how to reach Charlie, vacationing somewhere in the family car. Finally Wanger publicist Johnny Johnston prevailed upon radio newscaster Bruce Manning to go on the air with a story of the situation. Parked in his car atop Santinel Butte in Yosemite, Charlie listened in, and as a result rushed homeward and planed out for location!

a

Trade-papers report **Nick Musuraca, A.S.C.**, secretly married early last month If it's so—congratulations, Mr and Mrs. Nick!

a

Ernest Palmer, A.S.C., beaming over a new term contract from 20th Century-Fox. . . . And did you ever notice the warm friendliness with which **Ernie** welcomes visitors to his set—? Even when, as now, he's busy solo-piloting a big Technicolor feature like "Honeymoon In Havana," he never fails to make you feel at home.

●

Milton Krasner, A.S.C., thoroughly tanned after weeks on location at sea and around Lake Tahoe for Frank Lloyd's Universal biggie, "This Woman Is Mine" (if they haven't changed the title again!).

a

Johnny Fulton, A.S.C., by the way, trekked to Tahoe to supervise blowing up a 36-foot miniature ship for the same picture . . and promised to film it in 8mm Kodachrome and give us a peak.

●

Sol Polito, A.S.C., off for Canada to Technicolor Warners' big Royal Canadian Air Force epic. On the same pic, **Byron Haskin, A.S.C.**, and **Elmer Dyer, A.S.C.**, spent a week-end planing to Norfolk, back to Hollywood and then up to Canada.

a

Jerry Ash, A.S.C., slowly recovering from a near-fatal case of bronchial pneumonia which has kept him bedded since April 9th.

a

Virgil Miller, A.S.C., drops us a cheery line that he's just started his 34th at 20th-Fox (not counting a short apiece for Army and Navy) . . . and he's had the same crew for more than 20 of them. "My fourth son," Virge adds, "just graduated from Occidental College. So far I've sons graduated from U.C.L.A., U.S.C., Cal-Tech, and Occidental, with one more to go . . . no wonder our colleges are doing wall financially. Also, my total is four boys subject to the draft—too bad I'm just past 36!"

a

William N. (Billy) Williams, A.S.C., takes time off from his work with **Vern Walker's** RKO Trick Dept. to have a nervous breakdown. Best wishes, **Billy**, for a speedy recovery!

a

Joe Valentine, A.S.C., wandering about Universal City waiting for his next—the Margaret Sullavan starrer—to get under way. You should see **Joe's** fashion-plate white flannels . . he's quite the picture of what the best-dressed cinematographer should wear—between pictures!

a

John W. Boyle, A.S.C., Universal's other fashion-plate, passing by with a gorgeous specimen of 'location tan' from filming "Raiders of the Desert."

a

Lloyd Knechtel, A.S.C., off to Florida for MGM's latest Tarzanepic.

a

L. William O'Connell, A.S.C., doing right by "The Blonde from Singapore" at Columbia.

●

Jimmie Howe, A.S.C., dividing his time between his Ventura Blvd. restaurant, Ching How, and checking over sets for his next, "King's Row" at Warners And have you tried that Ching How cooking—? It's something!

a

Arthur Miller, A.S.C., commuting between studio and location 'cause they're filming "How Green Was My Valley" in sequence.

a

Hal Rosson, A.S.C., pinch-hitting for **Bill Daniels, A.S.C.**, when illness took Bill off MGM's "Honky Tonk" set .

John Seitz, A.S.C., on the "Sullivan's Travels" set at Paramount, talking to a uniformed youngster who turns out to be his Assistant, "Skippy" Burgess, en route to a year's contract (with options) with Uncle Sam's Army.

●

Benry Freulich, A.S.C., directing the photography of Columbia's "Go West Young Lady"

a

And we don't know any more enthusiastic booster of American-made lenses than **Rudy Maté, A.S.C.**, who's tried 'em all on two continents, and swears the Rochester-made Baltars are the best he's ever used.

a

Farciot Edouart, A.S.C., smiling for publicity stills with Keystone's 8mm. camera . . . he's an ardent 8mm.-shooter on his vacations.

●

A.S.C. Prexy Fred Jackman beaming at nice notices the trade-papers gave the process-work **Fred Jr.**, likewise **A.S.C.**, did in "Forced Landing." We've got it in for **Fred, Sr.**, by the way: he went and spoiled a gag we'd planned to use here, wondering if he'd charmed the birds in the tall pine tree by the **A.S.C.** clubhouse . . . then he went and parked his snazzy green Buick somewhere else, far from the tree and its inhabitants—but definitely!

a

Jackson Rose, A.S.C., busy on a super-special Defense short for MGM.

a

George Barnes, A.S.C., on loan to MGM to film "New York Story," the Edward G Robinson special

a

Theodor Sparkuhl, A.S.C., dusting off the coated lenses for Paramount's "Remarkable Andrew" And did you know **Ted** used to be a practicing M.D. before the camera germ got him—?

a

Harry Stradling, A.S.C., follows director Gregory Ratoff over to Edward Small Productions where they'll do "Corsican Brothers."

a

Joe Walker, A.S.C., teams with Wesley Ruggles for "You Belong to Me" at Columbia.

a

Russell Harlan, A.S.C., carries on for Harry Sherman's Paramount unit, doing "Stick to Your Guns"

a

Congratulations to two new A.S.C. members—**Daniel Fapp, A.S.C.**, and **Arthur Arling, A.S.C.**

●

Ray June, A.S.C., draws the camera assignment filming "The Female of the Species," Rosalind Russell's adieu to MGM

THROUGH the EDITOR'S FINDER

DURING recent months we've been receiving an increasing number of letters from members of the Photographic Sections of the Army, Navy, Marine Corps and Air Force, asking for technical information which will aid them in their tasks of making instructional, historical and publicity films for their various services. To them, and to their fellow-cinematographers in the uniforms of this and the other free and friendly nations we want now to say that we are glad to get such letters. In fact, we invite them. The American Society of Cinematographers is composed of the world's greatest experts in motion picture photography. Through these men, THE AMERICAN CINEMATOGRAPHER has access to what is literally the fountainhead of the most authoritative, up-to-date and practical information anywhere available on all things cinematographic. Through the Society's Associate Members and friends in other closely-allied fields, we have access to equally outstanding information on virtually every allied topic—sound-recording, laboratory work, optics, and the like. This information is always at the disposal of our readers, and today, doubly so for those who are making motion pictures as a part of the democratic world's great struggle for freedom.

But please don't follow the example of one reader, a grizzled Navy Chief Photographer who had seen photographic service in every sea. He called on us some years ago for information which would help him in his assignment of filming the activities of the U. S. Pacific Fleet. We took him to an A.S.C. member who had just filmed a studio production involving much location-work with the fleet. Our salty friend got the information he wanted; and in the process, a glimpse of the latest in cameras, lighting-units and sound-stage equipment. "Wonderful!" was his comment. "Just wonderful. But where the H—could I stow 'em aboard a battleship?"

■

NOT long ago an outstanding member of the A.S.C. was in consultation with his doctor. The medical man asked the cinematographer when he had his last vacation; "I hardly know," was the reply, "my studio has kept me going from one picture to the next so rapidly for the past couple of years that I've scarcely had more than week-ends and holidays to myself."

"H'm," replied the doctor, "that scarcely seems logical. From what you have told me about your work, and from what I've learned about you from others, you make on an average from four to six big, top-budget, long-schedule pictures per year. You are completely responsible for the photography—that is, it is your responsibility to see that these pictures reach saleable form in celluloid.

"To my way of thinking, that means you are literally an executive responsible for from $5,000,000 to $8,000,000 or more of your corporation's invested money every year. Responsibilities like that constitute a mental and nervous load that can burn a man out quicker than any kind of physical labor. What kind of an industry is it, anyway, that won't for its own benefit see to it that you take a real vacation every year—far away from even the thought of studios or pictures or work—so that you'll last longer and be there to make more pictures for them?"

We'd like to commend this doctor's statement to every studio executive in the industry. In the final analysis, the director of photography is the one man in the production unit who cannot make a mistake. Does the actor muff a scene —? Why, a retake, of course! Does the director fail to get the most out of a scene or a sequence—? We'll retake it, of course! Does the writer's continuity or dialog seem faulty on the screen—? Retakes will cure it, of course! But—let the director of photography miss out on a single take—and the answer is "He's slipping—doesn't he know retakes cost money?"

And the director of photography is the one man on the set who can never relax. He comes to the studio half an hour or so before the director and players, so that everything may be organized for the first shot when they arrive. Between takes, while they relax, catch up on their reading and maybe improve their gin-rummy, he is lighting the next scene, composing the next set-up. While they are rehearsing, he polishes his lighting. While they make their scene, he is constantly on the alert to see that everything is right for the camera, and that nothing can be improved. He cuts short his lunch-period, so that he can screen the rushes, and then get back to the set to carry on a step ahead of the troupe. When the rest go home, he spends another half-hour or so checking and roughing-in sets for the next day's shooting, or checking his film's progress through the laboratory. Then at last, so exhausted physically and nervously he can often do no more than snatch a quick supper and go to bed, he finishes his day, mentally planning for his next day's shooting. And when he finishes one production, he is ironed to another as quickly as possible—often with only hours between.

Is it any wonder that virtually every outstanding cinematographer has stomach ulcers, nervous indigestion or some similar manifestation of the terrific nervous load he is carrying—and that there are an altogether unnecessary number of gravestones in Hollywood's cemeteries marking the final resting-place of A.S.C. members who were prematurely burned out by the burden they carried?

Studio executives like to point out that there are all too few directors of photography capable of handling their big productions. We can't agree. there are plenty of men today photographing "B" productions who could turn in exceptional work on "A's"; there are experienced men, not at present working, who could do notably on either "B's" or "A's". And there are many alert young operatives who are bound to be the ace cinematographers of tomorrow, who are today over-due for promotion. Far from being a scarcity of talent, there is an abundance.

It is generally acknowledged that Hollywood's directors of photography form one of the industry's greatest assets. Therefore even if personal consideration for the individual be considered a sentimentality out of place in modern big business, we wonder if common-sense business practice wouldn't urge that these invaluable men be given longer and more frequent between-pictures relaxation periods if only to preserve these assets and make them have a longer and fuller productive life—?

■

IN the Navy they have a word for it —that cheerful, friendly unit of officers and crew which never seems to make very serious work out of anything, but gets things done just the same. They call it a "happy ship"—and experienced sailors tell us these "happy ships" usually have more of the efficiency-denoting "E's" blazoned on funnels, turrets and the like than do those that make a deadly-serious, soul-searing business out of everything.

We in the motion picture industry haven't a word for it, but we have our "happy ships" too. Anyone who, like this writer, spends much of his time going from one studio or set to another can't help noticing it. On one set, you'll find everyone slaving away in grim earnest, with no time for anything save serious thought of the work in hand—of set-ups, schedules and overhead. On another, you'll find the whole troupe apparently taking things easily, with plenty of time, apparently, for gags and laughing, and friendly chats with visiting fellow-professionals. You'd swear that the first troupe, so intent on its job, would turn out twice as much footage as the other, and do it more efficiently. But usually if you had access to actual production figures, you would find it the other way around.

We've known experienced production executives, studio and unit managers, and the like to be fooled by these appearances. In fact, we've heard of instances in which these officials praised the grimly serious crew and railed at the "happy" troupe—only to find that the apparently more efficient aggregation ended up the day well behind schedule

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PHOTOGRAPHY OF THE MONTH

MAN HUNT

Twentieth Century-Fox Production.
Director of Photography: Arthur Miller, A.S.C.

Director of Photography Arthur Miller, A.S.C., can always be counted on to contribute noteworthy photography to a picture, but his latest, "Man Hunt", is exceptional, even for him. A tense melodrama, played in low-key effect-lightings almost from start to finish, "Man Hunt's" every scene carries the crisp, clear-cut impression of a masterful etching. Miller makes full use of every technical and pictorial advantage to be wrung from his mastery of lighting, from coated lenses, and from the crisply black-and-white sets given him by Art Directors Richard Day and Wiard B. Ihnen. His achievement is definitely of Academy Award Calibre.

The picture opens with an unusually well-handled sequence of stage-built exterior scenes as Walter Pidgeon, playing a British big-game hunter, stalks silently through a Bavarian wood near Berchtesgaden, stalking "the biggest game in the world today." Ordinarily the lighting of heavy foliage such as this makes a distinctly difficult photographic problem for the cinematographer, regardless of whether he is using natural or artificial lighting, for each leaf forms a shiny reflecting surface, cross-hatched with tiny blank shadows, and the screened result is seldom altogether pleasing or natural. Miller's treatment of this technical problem is excellent: he maintains the striking mood-lighting necessary, but still keeps his foliage looking natural. These introductory scenes, too, are interconnected with a series of unusually interesting soft-hland "wipes" which are more than ordinarily smooth and effective.

Miller's treatment of some of the later sequences laid within the celebrated Berchtesgaden chateau is a pictorial delight: strong blacks and clear whites make each scene a memorable pictorial pattern, and at the same time form a perfect background fo the dramatic action. In an entirely different mood, but just as effective, are the fog-screened sequences as Pidgeon laboriously drags himself on his escape, and the later ones as he lands in London.

Miller's treatment of his players is, also as usual, excellent. In many ways his treatment of Joan Bennett ranks among the best she has enjoyed since she changed her personality from blonde to brunette. The other players fare uniformly well, the men especially getting many interesting and forceful character-lightings.

A great deal of praise must be given to the direction of Fritz Lang—a silent-picture director who has remembered innumerable visual tricks most of the present crop of talkie directors have either forgotten or never knew. Lang makes abundant, and extremely effective use of silent-picture action, sometimes entirely unsupported by dialog or sound-effects, sometimes enhanced by offstage sound-effects, to move his story along and build suspense. We could use more of his camera-wise kind.

Such other contributions as the set design of Art Directors Day and Ihnen, and the excellent musical score of Alfred Newman, deserve credit, though one could wish that Newman had avoided the temptation to employ one familiar popular song so consistently as a theme during the London sequences.

All told, it is unfortunate that "Man Hunt" will not, from the nature of its subject, be likely to be seen in Germany, for it is the sort of production, photographically and dramatically, that pre-Nazi Germany's cinema artists and technicians most admired and strove to emulate in their own work.

BLOSSOMS IN THE DUST

Metro-Goldwyn-Mayer Production (Technicolor.)
Directors of Photography: Karl Freund, A.S.C., and W. Howard Green, A.S.C.

"Blossoms In The Dust" is, we believe, the first strictly dramatic modern-period production to be made in Technicolor. As such, it gives for the first time an opportunity to compare the photographic merits of Technicolor with those of monochrome, on the sort of production that monochrome can claim as the home grounds. "Blossoms In The Dust" enjoys none of the glamorizing assets usually associated with Technicolor pictures. It is distinctly strong drama; it does not have a single musical or "production" number; it clothes its people in modern costumes, ranging from its beginning laid at the turn of the century down to the present; its locale—Wisconsin and Texas—certainly doesn't provide any exotic foreign atmosphere or lend itself to spectacular sets. In other words, in "Blossoms In The Dust" Technicolor has to prove its photodramatic, as well as pictorial merits.

It is a pleasure to report that it does, completely. After seeing "Blossoms In The Dust" in the Technicolor setting cinematographers Freund and Green have given it, it is virtually impossible to visualize it as it might have been in monochrome. Definitely, without being in the least obtrusive, the simple fact of color, intelligently handled, adds to the dramatic force of the already forceful story.

The production offers some of the most restrained use of color yet seen. Almost without exception, the sets are neutral-toned—soft grays and beiges, relieved by tasteful touches of deeper color in hangings, furniture and the like, and an occasional warmly glowing lampshade. The color-accent is almost entirely on the costumes of the players, and their natural facial colorings. This puts the visual accent precisely where it should be—on the players; and their performances are such that the accent is not misplaced.

In keeping with the rest of the film's treatment, Freund's and Green's lightings are also restrained. Offhand we're inclined to feel that they varied their mood-lighting treatment considerably less than they would have done had the production been done in black-and-white. It is varied, quite definitely, to key the visual impression to the dramatic needs: but this is done much more subtly than would be expected in a monochrome film. Yet the desired dramatic effect is there, strengthening every factor of the film's many highly emotional scenes.

The photographic treatment of the players is, as might be expected, excellent. It happened to be this reviewer's introduction to Greer Garson: and frankly, after seeing the vibrant impression she made as Technicolored by Freund and Green, we're almost afraid to see her in a black-and-white picture; it would be too much of an anticlimax. The make-up in this film—so often a weak point in Technicolor films, including at least one of the same studio's recent color releases, is distinctly above average.

In a word, "Blossoms In The Dust" is a film that no one interested in the industry's advancingly mature use of color should miss. But—take an extra handkerchief. You'll need it!

UNDERGROUND

Warner Bros.-First National Production.
Director of Photography: Sid Hickox, A.S.C.

It is not by any means too much to say that the strikingly mood-keyed photography Sid Hickox, A.S.C., gives this production is the literal making of the picture. A production like this story of the undercover activities of the patriots who, despite persecution, give voice to the secret anti-Nazi radio in Germany, depends above all for its effectiveness upon a visual presentation that stresses the sombre note of foreboding mystery. And with all due respect to uncommonly fine direction and writing, and the efforts of a brilliant cast, it is the photographic mood imparted through lens and lighting by Sid Hickox, A.S.C., that really lifts "Underground" into the category of dramatically notable films. In the process, it gives Hickox one of the best opportunities for photographic distinction that he has enjoyed in a long time. He rises to it magnificently.

Repeatedly there are scenes and sequences in which only Hickox's ingenuity in lighting and composition keep things from descending, visually at least, to the level of the commonplace. There are, for example, some scenes in the Gestapo

office which are played against a severely plain background, broken only by shadow-patterns his resourcefulness has contrived to cast on the wall — the shadow, in one instance, of a letterpress. In another sequence, that in which the surviving patriots visit retribution on the informer Hoffmann, Bickox has materially strengthened the dramatic effect by playing the entire sequence in almost total darkness, broken only by the rays of a flashlight.

His use of effect-lighting on both sets and people deserves careful attention, too. The special-effects work is praiseworthy, too, though uncredited. The other technical contributions are commendable, though one wonders why, with the wealth of technical directors understood to be used in making the film, the sound-effects department was allowed to dub into the railroad-station sequence a sound-effect track in which engine-bells were heard—when no locomotive in Europe carries a bell!

MOON OVER MIAMI

Twentieth Century-Fox Production (Technicolor.)

Director of Photography: **Ted Tetzlaff, A.S.C., Leon Shamroy, A.S.C. and Allen M. Davey, A.S.C.**

This latest in the succession of neatly-Technicolored Twentieth Century-Fox musicals ("Down Argentine Way," "That Night in Rio," etc.) is in many ways the smoothest photographic achievement of the lot. Cinematographers Marley, Shamroy and Davey have handled their work more than capably, bringing both the dramatic action and the many musical and "production" numbers to the screen very effectively.

The film includes an unusual number of interesting location sequences, filmed at various picturesque Florida resorts, and the use of transparency process cinematography to place the principals in these locations is most interesting and in the main, very well done, the possible exception being the diving-bell underwater scenes which looked suspiciously as if a blue-toned black-and-white background-plate had been employed. The preview, incidentally, furnished an interesting comparison between color and black-and-white on the same subject, for the feature was preceded by a sports-subject (black-and-white, of course) in which virtually the identical "puddle-jumping" motorboating action was shown, only to be repeated in Technicolor a short time later in the feature. The color camerawork was definitely an asset.

The photographic treatment of the players was excellent, though some fault could be found with Don Ameche's make-up, which seemed rather poor and none too consistent. The rest of the cast appeared to excellent advantage; and there certainly ought to be a law requiring that Carole Landis be shown only in Technicolor!

"Moon Over Miami" also showed better cooperation between cinematographers, art directors and costumer than has been the case in some previous color musicals from this studio; there were fewer distracting notes to weaken the cinematographers' efforts toward color-composition. All told, the film is a pleasing example of color, and pleasing entertainment, to boot.

THE BIG STORE

Metro-Goldwyn-Mayer Production

Director of Photography: **Charles Lawton, A.S.C.**

It is axiomatic that a zany comedy of the Marx Bros.' variety doesn't give the director of photography much opportunity to do more than crowd in a conservative, high-key lighting and hope for the best. This latest Marxepic is no exception to the rule, but there are several sequences in which cinematographer Lawton has slightly better opportunities than usual in such films. He takes care of them in his accustomed, capable fashion. In spite of the hectic comedy pace set throughout, he also manages to give the production a generally smooth photographic mounting, and to keep his players looking unusually attractive.

Photographically one of the most interesting sequences in the film is the one in which Barpo Marx, unwontedly distinguished in a Louis Seize costume, plays his first harp solo in a corner faced with two full-length mirrors and discovers that instead of a solo it is—thanks to projection process photography—a trio. It is one of the most original comedy applications of trick photography seen in some time, and all concerned deserve credit for it.

On the other hand, there are certain very bad technical flaws in the film. The latter part of the "Sing While You Sell" number, for instance, appears very badly undertimed and is certainly far below either Lawton's or the studio's usual excellent standard. The cutting in the climaxing chase sequence is also very ineptly handled; it is all well enough to assume that fast-paced zany comedy is nonsense and needn't be too logical, but that is not enough excuse to allow for the complete lack of coherence and continuity shown in some of these cuts. They would be deemed inexcusible in an amateur film: what excuse is there, then, for their appearance in a professional one?

KISS THE BOYS GOODBYE

Paramount Production.

Director of Photography: **Ted Tetzlaff, A.S.C.**

"Kiss The Boys Goodbye" is appropriately Ted Tetzlaff's adieu to the camera before his recent promotion to directing, and a very distinguished salute it is. The real merit of Tetzlaff's photographic contribution is all too likely to be overlooked because of the unusually high entertainment value of the film; but if one can force himself to look beyond the amusing performances and scintillating dialog he will realize that Tetzlaff's every scene breathes photographic charm and class. His lightings and compositions are technically excellent, and add immeasurably to the delightful atmosphere of the production.

His treatment of the star, Mary Martin, is particularly noteworthy: he has been perhaps more successful than any other cinematographer who has previously photographed her in overcoming the photographic liability of her "apple cheeks." She should certainly rank high among the many who will miss his touch at the camera now he has turned to directing. In one or two shots, her hairdress tends to offset Tetzlaff's achievements with lens and lighting, making her face look overly long; but in general "Kiss The Boys Goodbye" is by long odds this star's most photographically successful appearance to date, and one for which Tetzlaff can take many a bow.

THE BRIDE CAME C.O.D.

Warner Bros.'-First National Production.

Director of Photography: **Ernest Haller, A.S.C.**

Special Effects by **Byron Haskin, A.S.C.,** and **Rex Wimpy, A.S.C.**

Aerial Cinematography by **Elmer G. Dyer, A.S.C.**

That this reviewer considers "The Bride Came C.O.D." an excellently photographed picture is no fault of the people who arranged the preview for Warner Bros. The preview was held in a theatre, and no adequate preparations seem to have been made for the press, so that as a result the people who came there for the sole purpose of passing judgment on the merits of the film were forced to take seats close to the screen and at the side of the house, from which it was impossible to judge the visual aspects of the picture fairly.

However, even so director of photography Ernest Haller, A.S.C., appears to have done a really excellent piece of work. We've an idea that the players, if they could have been seen from a proper angle, would have appeared very favorably; even from the distorted viewpoint they seemed excellently photographed. Since the film was played throughout for comedy, Haller didn't, naturally, have the opportunities for mood-lighting that he has had on previous Bette Davis vehicles, but what opportunities he had, he made full use of. He has a number of really interesting effect-lightings, especially in the mine sequence, and he makes many of the ghost town interior scenes highly atmospheric and pictorial.

The special-process work of Haskin and Wimpy is excellent, especially in the scenes in which Cagney and Bette Davis stage their battle in the plane, and foreground action, background action and the rest have to be unusually closely coordinated.

The uncredited aerial scenes, including some excellent infra-red night-effects, by Elmer Dyer, A.S.C., are excellent, as are the several other infra-red night sequences.

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"SYNCHRO-SUNLIGHT" Movies With Reflectors

By GAETANO GAUDIO, A.S.C.

DURING the last few years the manufacturers of flash synchronizers have shown the still photographers how to improve their pictures by using a synchronized flash to lighten up the shadow-side of faces in exterior shots. And frequently I've heard amateur movie-makers, looking at their films, loudly wish they had some means of making "synchro-sunlight" movies.

Well—they have! Of course you can't synchronize flashbulbs with a 16mm. or 8mm. camera making its exposures at the rate of 16 or more per second. But you can get the same effect by using a reflector to cast a beam of reflected sunlight in to lighten up those shadows. Professional cinematographers have been doing it for more than thirty years, and today a professional cinematographer would no more think of going out to shoot exterior scenes without taking reflectors (or "booster" lights, which serve the same purpose) than he would think of starting out without his camera or film-magazines. And since reflectors are not only essential, but easy to make and use, there's no earthly reason why the serious amateur filmer shouldn't use them, too.

Any good-sized surface that will reflect light *can* in a pinch be used as a reflector. When Clyde DeVinna, A.S.C., was down in Africa a few years ago, for example, and came upon a shot that had to be gotten right then "or else—" he improvised a pair of reflectors by borrowing the leading lady's bedsheets. But even the most enthusiastic movie-making wives have objections to borrowing the family linen for such uses in home movies, so I wouldn't recommend this except in a real emergency. However, a projection screen—especially the silver-surfaced ones many filmers have left over from the days when they used the old Kodacolor process—makes an excellent emergency reflector.

While on this subject, though, one word of caution: don't use a mirror for a reflector; it reflects too sharp a beam of light and will only give an unnatural effect.

If you want to make up some real, studio-type reflectors, you can do it easily enough. Get yourself several pieces of plywood, each about three feet long and eighteen inches wide. Take a pair of these and hinge them together so that when closed, they fold together like a book, and when open they form a flat surface three feet square.

You can coat this flat reflecting surface in a number of different ways. Each type of coating will make a reflector of different reflecting power. To get what we call a "hard" reflector—one that casts a strong beam almost like a spotlight—cement flattened sheets of tinfoil to the reflecting surface. The tinfoil wrappings of roll-film, chocolate bars, or cigarette packages, if carefully smoothed out, will do excellently for this.

If you want a reflector that will give you a softer and more diffused beam, spray the reflecting surface with aluminum or gilt paint. The gold reflector gives a warm light which has something the effect of a light yellow filter on the face, and is especially easy on the actor's eyes; but its roddy light is of no use in Kodachrome. The silver-surfaced reflector throws back a clear daylight-white light, and is much better for color-filming, though not quite so easy to face.

Finally, if you want an extremely soft reflector, coat your reflecting area with a flat matte-white paint. This sort of reflector throws such a soft light that it doesn't give the obvious "he-used-a-reflector" effect; but it is none the less very helpful in lightening up shadows.

Now in most instances where I've seen amateur filmers using reflectors, I've noticed they go rather badly wrong in one respect, or rather, they use the reflector-techniques which we in Hollywood abandoned as unnatural a good many years ago but which, I suppose, seem new and novel to many photographic writers whose ideas come from "text-

Making the photos shown on opposite page, note use of reflectors.

Faith Dorn, Warner starlet, illustrates effects without (left) and with reflectors (right). Photos by Bert Longworth. On opposite page, the author is shown filming a scene from "The Great Lie", note position of reflectors.

books" on cinematography published ten, twenty or thirty years ago rather than from practical, modern production experience.

This is that they place their reflectors on the ground, so that they throw their light back and *upward* at the actors. Whether the light comes from a lamp or from a reflector, lighting from below almost always produces an unnatural effect, for we are accustomed to natural light which comes from above, and we subconsciously feel that lighting from any other angle is unnatural.

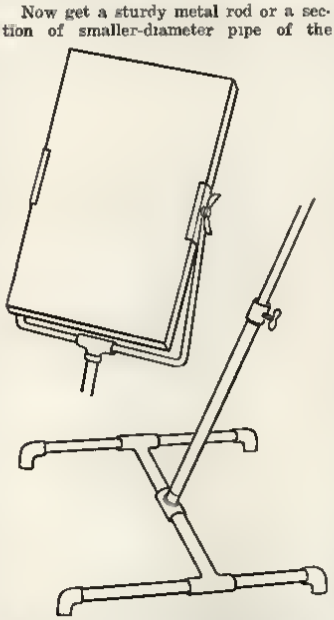
So while we occasionally use reflectors placed on the ground, studio cinematographers much more generally place their reflectors at a higher level, so that the reflected light strikes the subject either from face-level or slightly above it, as the situation may require. At first, we simply placed our reflectors on "parallels"—square wooden platforms three, four, six or more feet high. But lately we've found it more convenient to mount our reflectors on old lamp-stands, which can be adjusted to any height or angle.

Now the average amateur movie-maker seldom has enough new standards for his lamps—let alone discarded ones—so this particular solution is rather out of the question for amateur use. Sometimes an old tripod can be pressed into service, of course, but even this is an exception rather than the rule.

But it is easy enough to make a simple, adjustable stand which can do double duty, carrying reflectors when you're shooting outdoors, and clamp-on Photoflood units when you're filming interiors. To begin with, get a straight piece of inch-and-a-half iron pipe, three feet long, from your plumber. To one end of this attach a plumber's Tee connection, with your long pipe screwed into the bottom of the Tee. From each of the other openings of the Tee, extend a one-foot length of pipe, putting another Tee at the end of each of these. In each of these screw another one-foot length of pipe, and at the ends of these put 90-degree elbow sections, as shown in the sketch. This will give you an H-shaped base (the 90-degree elbows form "feet") with the three-foot length of pipe projecting upward from it.

At the top of this upright provide a set-screw, preferably fitted with a wing-bolt so you can tighten or loosen it without a wrench.

Now get a sturdy metal rod or a section of smaller-diameter pipe of the



right size to slide inside the upright pipe, and three or four feet long. It should be of such diameter that it will slide up and down freely, but big enough so the set-screw will lock it tightly in place.

At the top of this you can either fit another Tee, or one of the caps plumbers and gas-fitters use to cap off a pipe. To this, bolt or weld a piece of sturdy strap-iron slightly over six feet long. Bend the tips of this bar inward about 20 inches from each end, so that you have a very wide U-shaped clamp. At the ends of the U, place wing-bolt clamps which will hold your reflector between them.

By adjusting these clamps, you can swing the reflector vertically to any desired angle, locking it in place by tightening the clamps. By loosening the set-screw on the upright, you can swing the reflector in a horizontal arc, and adjust it to any desired height. In this way you get the equivalent of our lamp-stand reflector supports, and you can place your reflector at any height, and at any angle you wish. My suggestions as to using inch-and-a-half pipe for the base of the stand may seem rather over-large and bulky: but you want weight, spread and bulk there. Otherwise, if you are shooting on a breezy day the wind might catch the sail-like spread of your reflector and topple it over.

Now that you have your reflectors, the next thing is how to use them for the best effect!

The simplest and most obvious use of a reflector is to lighten up the shadow-side of faces when you're shooting in a cross-light. For this, a fairly soft reflector is usually best—the type made by spraying aluminum paint onto the reflecting surface. Place the reflector fairly well back from the subject, so you will still get an effect of shadow, but an "open," detailed one rather than sooty-black underexposure. And have the reflector about face-high for most shots. Occasionally you may find you'll get better results if it is even a bit higher, while once in a while, as in photographing people in very broad-brimmed hats, you may have to come lower to get the light in where it's needed.

You can use much the same technique when working in a back-light. Only in this case you may want two reflectors, one on each side of the face, and one

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Let Your Mistakes Teach You!

By SID HICKOX, A.S.C.

AN outstanding difference between the professional and the amateur in cinematography is that the professional never "knows it all." He approaches every scene with a realization that it is likely to teach him something new about cinematography, no matter how long he has been at it, or how routine that scene might seem. And he can learn as much from his failures as from his successes—sometimes a good deal more.

Those of us who shoot 16mm. or 8mm. movies as our spare-time hobby have learned, too, that this business of learning from each scene isn't by any means restricted exclusively to 35mm. professional work. Quite the reverse! A modern Director of Photography has a carefully-trained operative crew to handle the mechanical work of running his studio eamera, and when he gets his hands on his own substandard cinebox, he is likely to learn as many new things as any amateur

For example, several years ago I hought myself a 16mm. camera so that I could make movie records of my vacation-trips in Kodachrome. And one of the first things I learned as I screened my films was that amateurs haven't any monopoly on bad panning. In the studio, you have a big, impressive-looking sound camera that weighs several hundred pounds, mounted on a precision-built tripod designed to give smooth pans. But when you hold a little 16mm. camera in your hands and squint through its finder, somehow or other you get an entirely different perspective on panning. And the impression you get looking through that finder is entirely different from the jolt you get when you see your jerky, over-fast pan unwind on the screen!

To be brutally revealing, I thought when I was making my scenes that I was doing a lovely job of making slow, smooth pans. But when I saw the results on the screen, I was ashamed of myself, for my pans ware much too fast, and none too smooth, either. But I made myself run and re-run those reels, to see just how much too fast my pans were, and figure out a way to eliminate that fault the next time I went out with my Filmo.

I found they were, on the average, about 50% faster than they ought to be. Since that was the ease, it was easy enough to find a remedy that has worked to perfection ever since. I simply made it a practice to speed the eamera up from the usual 16 frames per second to 24-frame speed whenever I make a panning shot. The result is perfect.

This same idea can cure most of the ordinary had panning you see in so many home movies Of course, your pans may not be a mere 50% too fast; but in that case, you can simply take advantage of the other slow-motion speeds the manufacturer has given you, and shoot your panning scenes at 32 or 48-frame speeds, whichever may be required to slow your pauning down to the right speed I'll admit I've seen a few ultra-horrible examples which were so much too fast that even 64 frames per secoud could hardly slow them down enough to make the shot pleasing — but that, as Kipling says, is another story!

Errors in eaposure can often be instructive if you study your photographic failures on the screen. This is especially true if you use a meter—and still miss on an occasional scene. Nine times out of ten, you will find on studying the missed scene, that it contains a clue to just how you used your meter wrongly. For example, suppose you have a shot of a pretty girl in a light-colored dress, standing in front of a backgrouud of heavily-shaded greenery, and find the girl's face so badly overexposed you can't make out the details clearly. What have you done that was wrong?

Study that scene on the screen a few times, and you will see that the shady, dark-toned srea was a good deal higger than the highlight-area represented by the girl in her light dress. You used your meter all right—but it naturally gave you an averaged-up exposure reading of everything in the field. And since the shaded area was so much bigger than the light-toned area in the picture, the meter made you expose for that. Actually, of course, the girl was the most important part of your picture, and you should have keyed your eaposure on her, letting the less important background go however it might.

The answer there would be to come in closer with your meter and take your reading, not just on the overall expanse of the scene, but upon the most important part of it—in this ease, the light-clad girl—so you would get the correct exposure for that most important elgment of your scene.

In much the same way, wa'll often hring home shots in which the people we're photographing blend too closely into the background. A little study on the screen will show you what happened: you shot, perhaps, a person dressed in light-colored clothes against a light-toned background, or one in dark clothes against a photographically dark-toned background. If you will think back to the time and place you made the shot, you will usually find that by changing the camera-angle only a little hit, you could have managed things so you got some tonal contrast between your subject and the background—shooting the bright-clad girl against a neutral or dark-toned hackground, and the dark-clad people against a lighter or more brightly-illuminated one.

There's another pair of very common movie mistakes which show up all too often in shots you'd like to discard. One of them is the scene in which you've filmed some friend standing stock-still and grinning embarrassedly into the camera. Its companion is the shot of a playful friend who clowns exaggeratedly, mayhe imitating Mischa Auer's famous monkey-business, or Clark Gable's "It Happened One Night" ride-thumbing —and looking very foolish doing it. But if as you screen those shots, you give a thought to the surroundings when you made them, you'll see—if you look hard enough—they key to what's wrong with those scenes, and a hint as to how to avoid shots like that in the future. The remedy's simple enough: just give people somathing uatural and definite to do! Then they won't have any opportunity to grow self-conscious. It may be some very simple thiug like reading a letter or magazine, looking up to smile at you now and then as you speak to them. It may be helping the wife into or out of the family car. But if you give folks something definite to do when you're filming them, you'll find you'll have fewer of those goggle-eyed shots to throw sway.

Another very commou trouble is beheading people or otherwise misframing scenes as you move in to make closer shots This is simply hecause your finder and the camera's lens can't he in the eame position, and consequently, though their fields overlap at long-shot distances, when you come closer—say six or eight

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Plan Your Movies for Sound

By WILLIAM STULL, A.S.C.

FULLY lip-synchronized talking pictures are still rather out of reach for most home filmers, but sound in the form of musical accompaniment, sound-effects and narration can easily be added to any home movie, 16mm. or 8mm. In its simplest form, it needn't cost much, either, for there are several ways sound can be added to a silent picture, ranging from the very inexpensive non-synchronous method up to the best professionally-recorded 16mm. sound-on-Kodachrome, the finest in substandard sound today. So why not plan your vacation-movie for sound, suiting the method to your individual needs?

The simplest way of adding sound to home movies is to use a non-synchronous dual-turntable record-reproducing outfit to provide a musical background, while you speak your narrative through a microphone. If you have an outfit like this made up professionally, it should cost you from $85 to $200; but you can assemble your own for considerably less.

One of the neatest outfits of this type I've seen was one built by a California cineamateur. He simply bought himself two of the inexpensive record-players used for playing phonograph records through a radio's amplifier. He installed these side-by side in an ordinary suitcase, and provided for wiring them to the input stage of an inexpensive portable amplifier which, in turn, could be connected to a loudspeaker he fitted into an overnight-case. A third input on the amplifier permitted him to connect a microphone. The whole thing shouldn't have cost him more than about $60—probably less, if he was frugal enough to shop around a bit for traded-in record-players, used suitcases, and the like.

Another chap, assembling a similar outfit, picked up the amplifying unit from a nickel-in-the-slot "juke-box" record-player which had been replaced by a newer model—and with almost no investment, obtained a high-quality amplifier with enough power to fill any auditorium he might choose to use.

A few words of caution are necessary if you're planning to build an outfit of this nature. First of all, be sure and have an individual "fader" or volume-control for each turntable, and a separate one for the mike. This way, you can lap-dissolve smoothly from one record to the next, and fade your narration in and out without interfering with the music. Secondly, I'd suggest having your amplifier in a separate case of its own, so it can be put conveniently at some distance away from the turntables; don't, at any rate, put the amplifier in the turntable-case with the tubes projecting from the case: you'll only have to burn your wrist once on a hot tube, changing records in the dark, to know the reason for this! Finally, plan your speaker-case so you can provide as large a baffle as possible; it will improve your volume and sound-quality enormously.

Using an outfit like this is preferably a two-man job—one person to keep the musical score going smoothing (using commercial phonograph-records) and the other to read or speak the narration through the mike.

If you want sound-effects, add a third turntable so that you can keep your recorded musical score flowing smoothly, while the third turntable plays the sound-effects. RCA-Victor and several commercial recording companies make sound-effects records which, since they are recorded at 78 r.p.m., can be played on any home phonograph or record-player. Among the effects obtainable are auto horns; a variety of bells and whistles; sirens; dog barking; baby crying; airplanes taking off and flying; autos starting and running, approaching and receding; traffic noises; cheers, mumbling and crowd-noises; trains starting, stopping, whistling and blowing off steam; thunder; rain and wind-noises; storms; sea effects, running brook, and water lapping against a boat; artillery and machine-gun fire; bugle-calls; horses' hoofs on various surfaces; footsteps—even in mud; orchestras tuning up; applause, and many others which meet the needs of almost any conceivable home-movie situation.

The drawback of this method of adding sound to a home film is of course that each showing is an individual performance on the sound end—changing records, watching for cues, reading the narration, and so on. But with a little added equipment and outlay this can be eliminated. During the past year at least two firms have developed electrical synchronizing units by which almost any 16mm. or 8mm. projector can be synchronized with a phonograph or record-player. Using these synchro-sound units, you can build up your musical score and sound-effects from commercial recordings, as outlined, and read or speak your narration into a microphone. But you only do it *once*, for you record the whole thing on a disc record which is made in exact synchronism with the film, and thereafter played in electrically-controlled synchronism with the projector.

With this system you can use records playing at either the standard phonograph speed of 78 r.p.m. or the transcription speed of 33⅓ r.p.m. The latter is preferable, since it gives considerably longer playing-time; depending on how the record is cut, you can get the sound for a whole 400-foot 16mm. reel or a 200-foot 8mm. reel on a single side of one 13½-inch or 16-inch disc. If you care to, you can do the recording yourself—and have a lot of fun doing it; if the sound bug hasn't bitten you, you can find recording studios in most cities equipped to do your recording for you. In some instances, they may have the necessary synchronizing equipment already installed; in others, you may have to fit your synchronizer to their recorders.

This system, obviously, has but one shortcoming: that is that like the early disc-recorded professional talkies, a break in the film can throw things completely out of sync. To get around this problem, you'll have to do what the pro-

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Exposing Amateur Film For Professional Quality

By P. C. SMETHURST

EVERYONE who takes amateur films must have an idea of what constitutes "Professional quality" at the back of his mind, and just because so few of one's own films approach this standard it is only too easy to be persuaded that there is something inherently lacking in substandard films. Such a conclusion is most unfair: the fact is that very few of us have ever sat down and thought out just what we mean when we use the word quality, and every right-minded person will agree that unless we know what we want to get, it will be out of the question to devise ways and means of getting it. These notes are consequently intended to show that image quality can be defined quite simply and easily on a basis of film conventions, and to explain how this standard of quality can be reached by anyone who is prepared to use certain simple methods. There is no need for a beginner to consider the subject too complicated for him—the whole business is so simple that all the really clever people looked for complications where none existed. The principles described here have been tested time after time, and there is no question but that they work in practice.

A reasonably critical study of professional films at the nearest cinema will convince anyone that there are two kinds of image employed. The first is the ordinary standard image, which is used for normal shots, and the other is the special-effect, which is used deliberately to produce heightened emotional tension among the audience. Now these two types of image must be handled differently in the camera, for obvious reasons, but since the average amateur is going to be much more interested in the ordinary standard image than in special effects, the former is clearly the more important. Then again, special effects vary so much with the intention of the director and cameraman that there is nothing standard about them. We shall, therefore, consider the standard image as a basis, and then find out how special effects can be turned out at will as special cases of our standard.

In considering the actual quality of a screen image, too, a little thought shows that two factors are involved—image brightness and image contrast. In motion pictures of the amateur type, image contrast depends entirely on (a) the emulsion characteristic, and (b) the range of tones shown by the original subject filmed, and once the camera has been turned on a scene, nothing on earth can change the contrast of the screen image. This lack of control over contrast makes it clear that if special types of contrast are needed, they must be produced in the camera by filters and similar devices for daylight work, and by the suitable arrangement of lamps in artificial light, but since the whole basis of the cinema is to produce something on the screen which we can mistake for real life, it is clear that contrast should be left as natural as possible in ordinary exposures. Hence we can, on the whole, leave it to itself and only bother about it when it is too small (i.e. with a very flat subject) or too great (i.e. with a very contrasty subject).

Image brightness is quite another matter. In the ordinary course of events, faces are the most commonly important subjects in a film, and since we have noticed above that the screen image must be as natural as possible, one face appearing in successive shots ought to have the same screen brightness in all of them. If it does not do so, then the audience are going to be worried as to what has happened in the intervening period between the shots. Even where no face appears in one shot, but is shown in the next against the same background, the two shots should receive the same exposure (for it is camera exposure on reversal film which conditions the screen brightness of the various tones), for a change in the brightness value of the background will trouble and puzzle the audience in just the same way as a change in the appearance of a face. It is true, of course, that the human eye does not readily notice small changes in screen brightness, but this only means that we have a reasonable limit of tolerance in practical exposure.

All these remarks boil down to the fact that we want to make face tones match on the screen if our shots are to look natural, and it is the matching of face tones which constitutes a true standard of image quality. If faces are pinned down to have one particular screen brightness, then the darker parts of the scene will fall into their suitable places down the scale of screen brightnesses, and the contrast of the actual subject will be more or less accurately reproduced on the screen.

There are one or two remarkable and apparently paradoxical points which

arise as soon as matched face tones are accepted as a standard of image quality. In reversal film, the exposure is the only factor which changes the values of screen brightness, and those who are familiar with the processing of reversal film will know well enough that unless the faces are matched by camera exposure, the finest processing plant on earth cannot go through the shots one by one and do the work instead. We must therefore rely on our own exposure to be accurate, if we want to match faces, and request the processing plant to give time and temperature treatment without any attempt to alter what we have done.

It is these facts which lead to the paradoxes. Assuming that other things remain equal, a face against black velvet must be given precisely the same exposure as a face against white clouds; a close-up must be given the same exposure as a long-shot; a shot of cloud and sky must have the same exposure as a shot including no sky at all in the picture, and titles with black letters on white ground must have the same exposure as those with white letters on black. Those who are accustomed to accepting the readings of ordinary types of exposure meter as the truth will probably be thoroughly amused at these suggestions, and describe them as ridiculous, but if they wish to get the same quality as they are accustomed to see in feature films they must follow these instructions or fail in the attempt. The joke, in the end, is on the reflected-light exposure meter, for in a natural image a dark object appears dark and a white object white, but the meter readings, applied to the camera, will give a medium grey tone to each. And this is precisely what we do not want.

Anyone who looks closely at a face in ordinary light will know that there are all kinds of lights and shadows chasing over it, so that it is a little puzzling at first to decide just which tone in it should be taken as standard. But by considering that our image standard must be independent of contrast, it is evident that we can only accept the brightest part of a face as a basis for our exposures.

Even here, a further point arises: the brightest points on a face are the brilliant high-lights which appear on the nose and over the cheek-bones, and as the head is turned they move, increase and decrease in brightness, appear and vanish. As it is perfectly natural for these high-lights to flicker, move, and vary in brightness as the head is moved, we evidently cannot take them as a standard brightness value, for they will vary according to the angle at which light reaches the face, and on the angle subtended at the face between the lamps and the camera. *We are thus left with the only remaining tone of the face as a standard: the brightest portion which reflects light diffusely (i.e. like a matt white screen).*

If this tone of the face remains constant in brightness on the screen, the brilliant high-lights will chase over the face in a perfectly natural way, and if the contrast is strong, the shadows will accordingly appear darker, just as they seem to our eye through the view-finder. Here, then, is the only suitable standard for screen brightness, and it remains to find a method to use it in practice.

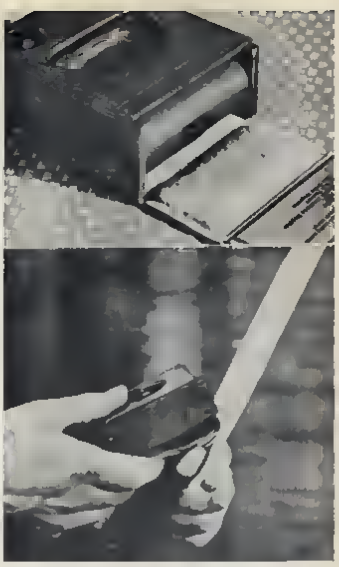
For convenience we call the standard the maximum diffuse face brightness, and the primary difficulty in measuring it lies in the fact that it normally extends over a very small area. Quite apart from this, it takes a good deal of experience to detect just where it lies, and nobody is going to spend some months in training without any results to show for it. It would, perhaps, be possible to use a laboratory photometer to do the work, but as such instruments are very expensive and may weight anything up to twenty pounds with their auxiliary equipment, few practical people are likely to want to have anything to do with them.

There is, luckily, a dodge which can get over these troubles: those of us who remember struggling with algebra at school may call to mind that a complex problem or expression is often quite easy to handle when it is taken to pieces and dealt with bit by bit. In our own trouble, therefore, let us borrow the technique of the illuminating engineer and consider that brightness is split up into three factors: (a) the reflection factor of the face—i.e. the fraction of light reaching it which is reflected back, (b) the intensity of light reaching the face, and (c) the angle at which this light falls.

Leaving (b) and (c) alone for the moment, let us consider (a) only. Any face has a reflection factor which remains constant, whatever the intensity of light reaching it, a certain fraction will be reflected back, and the fraction does not change with a change in light intensity. This is true of any stable surface, and it looks as if it might be possible to get rid of the inconvenience of measuring direct on a face, and to adopt an artificial standard instead.

If a piece of white paper with a matt surface (it must not be shiny or glossy, as we have seen that the diffusely reflecting tones only can be used as standard) is held up beside a face, and examined critically in different intensities of light, it will be found that there is a constant contrast difference between the two. This is because while the face reflects diffusely, say, 30% of the light reaching it, the paper will perhaps reflect 90%, so that the value of paper brightness is always three times that of the face. Thus, by finding the diffuse brightness of the paper, we get a value which has a constant relation to the diffuse face brightness, and if the paper is made conveniently large in size, an ordinary exposure meter can be used to read it, and thus give an exposure value which takes both (a) and (b) above into account.

Nor is it particularly hard to deal with the angle at which the light falls.



Above, Figure 1, showing masking of meter cell; below, Figure 2, showing how meter and card are held. Picture on opposite page photographed on Agfa Film even in a shot like this the face tone is the desired normal.

Taking the simplest case of an exposure in full sun, the paper will show the largest reading on the exposure meter in front of it when the paper itself is at right angles to the direction of the sun, and this actually corresponds to the point on the face where the maximum diffuse brightness appears. By this means, a suitable artificial high-light and an ordinary exposure meter can be used to obtain matched face tones, and the rule for taking the reading is to find the largest stop number (i.e. smallest exposure value) which the combination of meter and artificial highlight can be induced to give in the lighting conditions prevailing.

Once this artificial standard is used, an important advantage results: since we are no longer dependent on the actual brightness of a face, such variations in the latter which may be due to an increase in tan during the first three or four days of a summer holiday will have no effect on the exposure standard, and thus on the standard of image quality. The result is, instead, that the face darkens slightly on the screen as it tans, which is as it should be if a natural effect is required. The artificial high-light makes it possible, in fact, to expose all the year round and know that the images produced will only vary in contrast, but not in the screen brightness of face tones.

Since ordinary exposure meters are intended to work on an average scene, and not on a white card, it is evident that to hold up the meter to the card will not immediately give a camera exposure value which can be used. In summer

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Colors need not be lavishly displayed to make a pleasing color shot, as this scene from "Chad Hanna" illustrates

Composition and Continuity For Natural-Color Filming

By JAMES A. SHERLOCK,

Vice-President,
Australian Amateur Cine Society

AFTER experiencing the thrill and novelty of seeing one's colored films projected a few times, the artistically-minded filmsmith will realize that each scene is not quite as good as it might be It will be seen that most shots, even when correctly exposed and processed, contain too much color and too many contrasts. The serious amateur will soon find that his pictures lack something and that something can only be added by patience, practice and experiance with this new branch of photographic reproduction. All he knows about picture composition and lighting for the black-and-white process will have to be modified He must learn to cultivate an honest personal taste for color and should not accept the opinions of other people, neither should he pretend to admire beauty in color. He must try to understand the hidden mystery of paintings left to us by people who have passed on and are now known as Old Masters. As we learn to appreciate their work, we find that our taste broadens and we are able to see light in paintings which was perceived in Nature by the eyes of genius then revealed by the hands of these Masters.

Color film is almost twice the price of black-and-white film, and because of this most amateurs feel that they must point their color-loaded camera wherever there are brilliant colors. Many world travellers return home with hundreds of feet of flower beds, sunsets and the like which have been filmed because they were brilliant to the eye, and in their enthusiasm to get color forgot that most scenes would have been better if a little taste and discretion had been used. They seem to favor scenes with large juxtaposed areas of pure complementaries which fight with one another to attract attention, and shock the finer sensibilities in doing so Their really best shots were most probably obtained from scenes which did not attract the eye by their brilliance.

If the eye is to take pleasure in a scene, the colors should be proportionately balanced, have rhythm and symmetry. No simple laws of color-harmony can be made which will be separated by distinct rules. Two or three colors badly distributed may create divided interest, but differently arranged they may become more effective. The point of interest should receive the strongest color-contrast, and the area of pure color should not be larger than ⅛ of the picture. The use of contrasts should be shown modestly. They are rarely displayed sensationally by great artists, rather are they introduced quietly, and unless the viewer subjects a picture to close observation these contrasts may not be discovered, yet their effect is very important to the picture.

In black-and-white photography we rely on light, lines and form for our composition. In color-filming we have also to pay attention to color-contrasts and realize that the intensity of a color is increased when it is placed close to its opposite. The whole scene should be in harmony with the subject, and the colors in harmony with each other. Brilliancy of color is not necessarily crude, but with additions and reliefs the skillful colorist can make a scene delightful and our eyes can be led in easy steps from color to color without becoming wearied. It should be noted that the purer a color is, the more it attracts the eye.

The element of proportion is very important in estimating a color-harmony. It may be considered first as the actual quantitative relation of the colors in a harmonious scheme. How much blue of a given value and intensity will balance so much yellow of a given value and intensity The answer according to the physicist is that when the sum of the two produces gray the proportions are right, but this type of proportion, even if it can be accurately and mathematically determined and measured, must for ordinary purposes be summed up in three proportions which can be applied with the trained eye as the judge.

1. Small areas of advancing colors of given intensity and value require proportionally large areas of receding colors. (Yellow, red and orange tend to advance, while blue, green and violet of equal intensity tend to recede)

2. Small areas of intense colors of given advance and value require proportionally large areas of dulled colors.

3. Where two or more of the factors making for strength are in the one color, a proportionally larger area of weaker color will be needed to balance its activity and force.

A study of Nature's color-harmonies will enable you to make better and more natural color movies.

If better pictorial value is to be added to natural (?) color films, then a study of the manner Nature, the greatest artist of all, uses in her color harmonies, will prove that she does not recklessly mix her pigments, rather are they delicately chosen from selected parts of the spectrum.

Go up to the mountains and hills into virgin forests where little crystal-clear streams are unspoiled by the hand of man, learn to know and appreciate Nature. She is such a simple, kindly old soul who is quite willing to turn a friendly face and reveal some secrets, to those who love her. When she stages a sunrise, daylight approaches through the blue end of the spectrum till white light is reached about 10 a.m. Then if there are no clouds hiding the sun, this light continues till about 4 o'clock in the afternoon. From then on the light is first tinged with yellow, then orange, till finally as the sun sinks, reds slowly dissolve to greys.

Nature does not suddenly jump from one light-condition to another. She does it in slow, even manner and the color filmsmith must be careful that his picture does not accentuate the changing light-conditions by having his film cut from an early morning shot to a late afternoon scene.

If it is desirable to correctly record the colors of an object as normally seen in daylight and not to indicate the time of day, it would be necessary to photograph such object under midday sunlight, for the reason that the colors in most color film are balanced for average midday sunlight, but for all practical purposes the hours between 10 a.m. and 4 p.m. on a cloudless day are admirable.

Unfortunately film-latitude in color-photography is very limited, which fact accounts for most of its unnatural reproductions. Therefore the color-worker must be particularly careful measuring the correct exposure for each scene.

All color-photography attempts to reproduce color as the human eye sees it, and the slightest variations in hues are noticed by the eye, which expects various products of Nature to contain particular colors. When an unnatural color is seen, the nervous system is irritated and the optic organ transfers to the brain an unpleasant impulse. This reaction is increased when a person is seated in a dark room and moving colored scenes are appearing on a screen. Care should also be taken to determine whether or not there is too much contrast between highlights and shadows for the color-process to handle.

If the highlights are too brilliant, their colors will be washed out; if the shadows are deep and comprise a large portion of the picture, they will appear muddy while the middle-tones will perhaps photograph normally. Therefore, if an undistorted and natural rendition is required in an outdoor scene, a camera-angle must be carefully chosen which will avoid the deep contrasts that color-processes are unable to handle. When photographing an interior, lights can be used to brighten the shadows, and if reflectors are used for either exteriors or interiors, they should be surfaced with a flat white or silver paint.

If we study a distant view it will be noticed that a blue or purple haze will supplant detail in objects as they disappear into the distance, particularly if the day is hazy. Sometimes this veil improves the quality of a scene; but when the amateur wishes to record as much detail in the distance as possible, the use of a Kodachrome Haze-filter is recommended. (A pola-screen is often as good or better for this purpose.—Ed.)

The Haze-filter is also used to advantage on dull days or on scenes in shadow, mainly because objects on dull days or scenes in shadow are illuminated by diffused or scattered light and record bluer than is normally seen by the eye. The Haze-filter has the property of absorbing most of this unwanted color. The filter is colorless and does not affect visible light.

The serious amateur should learn to observe the colored world he lives in. He must learn that a daffodil is not always and exclusively yellow; he will learn that its color is affected by the color of the light falling on it. When this discovery is made, the movie-maker realizes that the lens of a camera does not cover the same area as the eye when it registers a scene, also that objects are affected by the reflected color from other nearby objects. The subconscious mind of the viewer allows for this characteristic when such a scene is beheld, but the field *outside* the limit of the viewfinder is not known by a picture audience. The scene *inside* the viewfinder is the one for the cameraman to observe, as the audience can only judge a scene by its appearance on the screen.

For example, on a cloudless day shadows are blue, for the reason that they receive part of their illumination from the blue sky. This fact is prominent in a snow scene and is more noticeable if blue shadows appear without an area of blue sky to account for them.

Most color-processes have the peculiarity of stressing certain colors and holding back others. Kodachrome film, for example, accentuates reds, and when correctly exposed and processed has the peculiarity of making most scenes appear too brilliant. Unless the movie-

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Making Movies In A Summer Camp

By A. L. GILKS, A.S.C.

Photographed on Agfa film

EVERY summer tens of thousands of boys and girls—to say nothing of thousands of college-age counsellors—trek off to lakes and mountains for a carefree vacation in summer camps. Some of them may spend only two or three weeks in camp, others spend the entire summer. But all of them carry cameras of some sort, and an increasing number each year go a-camping armed with a 16mm. or 8mm. movie-camera.

And why not—? The activities of a summer camp—any camp—offer some of the finest picture possibilities anyone could wish. If you look for it, you can find the raw material for almost any kind of a film in camp, waiting for someone to see and photograph it. But if you want to come home with a really good picture, you must be constantly on the alert to see and capture every filmic opportunity! You've got to plan beforehand what you're going to film, and get it on film while the filming's good—before the novelty of the new surroundings wears off.

Probably the most popular type of summer-camp film is what might be called a first person singular photographic diary—an out-and-out record of what one person saw and did during his summer in camp. This can best be presented, I think, if you can plan and shoot it as a complete record of some one person's camping season. We like to comment on the difference between a boy or girl camper as he enters camp, thin, nervous, and rather pale from a winter in school, and the appearance of the same boy a few weeks later, after his season in the open air—filled out, bronzed, probably a bit unkempt as to hair, and maybe ornamented with a raffish-looking bandage or two as the result of some minor scratch or tumble. Why not show it on the screen—and with it, a moving record of at least the outstanding experiances of the outdoor life that worked the change—?

The natural starting-point for such a picture is to pick up the youngster as his parents deposit him on train or bus to go to his camp, and you can end up with his return, looking so greatly different. Between, you can build a record of the camp season; not necessarily "staging" much, if any, of the action, but always keeping that particular youngster pretty well the center of action. You can show what he does, who he meets, where he goes and what he learns. When these shots are properly put together and titled, you're very likely to have a pretty comprehensive story of the camping season.

Each camp has its own particular specialties, which should occupy a major part of the footage. Some, for instance, tend rather to specialize in acquatic events—teaching every camper to swim, to row, to paddle a canoe, to sail, and even sometimes to row in a collegiate-type shell. There are big "water sports" days, with swimming and diving contests, obstacle-races, canoe-tilts, and the like, which simply demand filming. Other camps make a specialty of camping parties by foot, by boat or horseback to outlying localities where the campers can spend several days really "roughing it," sleeping in the open, cooking their own flapjacks, and in general living the life of the wild. Others specialize in woodcraft, Indian-style; others in such more civilized pursuits as music (did you see Paramount's "There's Magic In Music"—?), dramatics, or dancing. In whichever one of these may be your camp's specialty lies the key to the dramatic highlight of your picture; let the whole "story" of your record-film build up to a detailed coverage of this specialty, capping it only with the return of the camper to his or her home at the season's end.

But there are innumerable other approaches to summer-camp filming. For example, there are endless subjects for making good documentary films. What's more, making them can be worked in as a constructive part of the camp's activities. In a camp where woodcraft and Indian lore are paramount interests, you can find material for many a documentary—the right and wrong of different methods of fire-making; following and blazing trails; the making of Indian bead or feather-work, or even a bow and arrows. Such subjects can be made into a neat little story, with, say, a counsellor or guide showing an individual or a group of campers how to do things, with perhaps one youngster showing off all the wrong methods, and being carefully taught the correct procedure.

Most camps, too, have naturalists, and with their help really instructive films of the wild life of the region—the birds and wild animals, even the insects, the flowers or plants—can be made. I've known of some camps in which such photographic study was encouraged by prizes or trophies for the best photographic nature-studies—and surely a well-made movie would be a strong contender for such honors.

In the Western states, many camps stress the cowboy life, with saddle trips to camping spots along inaccessible mountain trails. And what could be more interesting than to make a film showing the details of such a trip—how to load a pack-horse; throwing a diamond hitch; hobbling the animals at overnight stopping places, and of course the secrets of camp cookery in the open?

Most camps, too, make a feature of impromptu dramatics. Some I've known, in addition to the usual nightly high-

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AMONG THE MOVIE CLUBS

Colorado Springs Organizes

On May 26th an informal get-together of amateur movie enthusiasts in Colorado Springs resulted in the formation of the Colorado Springs Cinema Club, with a membership of both 8mm. and 16mm. camera-users. The first meeting was intended more or less as an experiment, to see how many amateurs in that locality were seriously interested in forming a club. The result far succeeded expectations, as 22 amateurs responded. A temporary organization was formed, and two officers elected—Earl Cochran, President, and Roy Thomas, Secretary-treasurer.

The initial program included a showing of 16mm. sound-films on a new-model Eastman sound projector loaned through the courtesy of Shewmaker's Camera Shop; several reels of members' films which were screened and constructively criticized; and a discussion of various types of movie cameras and their operation.

In all, the Colorado Springs Cinema Club got off to a good start, and all amateur filmers in that area are invited to acquaint themselves with the club. The cooperation of older and longer-established clubs in other parts of the country will be appreciated, and any of their members vacationing in Colorado will find a hearty welcome at the new Club's meetings.

EARL COCHRAN, President.

Big Show for Octo-Cine Guild

On June 12th the Minneapolis Octo-Cine Guild, the twin cities' exclusively 8mm. organization, presented its Second Annual public screening before an audience of 300 people in a theatre-size auditorium. Eastman "70" projectors, "souped up" as to projection-lenses and fitted with 750-Watt lamps were used to project a 9x12 foot picture. Projection was in charge of Allen Herber, with M. N. Fleming handling sound from recordings. The program included "Octo-Cine Pot-Shots," including "The Big Top Goes Up" by K. V. Knutson; "Mardi Gras," by W. A. Shimp; "Culinary Arts," by H. L. Asp; "On Point," by R. D. Armstrong; "Robbinsdale Fire" by H. L. Asp; "Yuletide Skates," by Dr. C. A. Lindahl; "Wings," by G. R. Morton; "Hobbies," by W. F. Ohnstein, Jr.; "National Champs—1940," by A. E. Herber; "A Girl and Her Dog," by A. E. Herber, and "Floral Fantasy," by K. V. Knutson. The feature of the evening was "Elixir Invisibilis," by Dr. C. A. Lindahl, followed by "A Bit of Colorful America," filmed by Fred Murphy and narrated by the filmer. This is believed to be one of the biggest-screen presentations of 8mm. yet attempted.

A. F. BUCKLES, Secretary.

Left: Officers of Southern California's movie clubs at May meeting of the Los Angeles 8mm. Club. Included are H. P. Carnahan, President of the La Casa Movie Makers of Alhambra; President Hoyt of the Inglewood Movie Club; President Wm. Hight and Secretary Shandler of the Los Angeles Cinema Club; President Fullbright of the Whittier Movie Club; Messrs. Rittenhouse, Plank and Hall of the Pasadena Movie Club; President Heinz of the Southwest Movie Club; President Callow of the Southern Cinema Club; Secretary Howard Timmons of the Highland Park Movie Club; Secretary Johnson of the Snicker Flicker Club of Glendale; Mrs. Mildred Caldwell, President, Roy Fosholdt, Secretary, and members Phillips and Ward of the Long Beach Cinema Club; and President A. J. Zemon, Secretary Betty Barney and temporary chairman S. M. Bevens of the Los Angeles 8mm. Club. At right is seen the newly-organized Colorado Springs, Colo., Cinema Club, at the group's first meeting.

Long Beach Studies Trailers and Lighting

The June 4th meeting of the Long Beach Cinema Club took the form of a bus-trip to the Hollywood studios of the National Screen Service where movie "trailers" are made. Frank Glennow escorted the party through the plant and explained how trailers and titles are made. At the June 18th meeting Mr. Mac Thoen of MGM Studios gave a demonstration of lighting. Two scenes from the Club's coming production were filmed, using Valerie SoReile, Clarence Aldrich and Mr. and Mrs. Pat Rafferty as actors. A complete record of the lightings used was made for future reference.

RAYMOND FOSHOLDT, Secretary.

Washington S.A.C. Discusses "Art of Ommission"

The June meeting of the Washington Society of Amateur Cinematographers featured a paper on "The Art of Leaving Out" by Senior Vice-President Dr. L. B. Olmstead. He placed special stress on the necessity of selecting the background as an important medium in good picture-making, and the importance of leaving out everything except the thing being photographed. He pointed out that a course of study embracing many years is necessary in such professions as law, medicine, engineering, etc., and that it is just as necessary to study and experimant for many years in order to become proficient in picture-making.

Second Vice-President Everett Marsh demonstrated his dual turntable sound outfit and the reconstruction job he had accomplished on a 1923 Model A Kodascope, adding a cooling system and a 500-Watt globe. He screened his color film "The Nations of the World at the Fair," convincingly demonstrating the efficiency of his rebuilt projector. Former Secretary Wilbur Commgs and present Secretary Theodore Sarchen demonstrated other gadgets. Highlight of the evening was the projection of Kodachrome stills by Secretary Milton Pike of the Washington 8mm. Club. These were unusually beautiful, and demonstrated the value of the "Opti-coat" treatment of his lenses. The Society's new 59x72 DaLite screen, recently acquired through the proceeds of the auction previously reported, was first used at this meeting. The Society decided to suspend meetings during the summer months, due to the heat in Washington, and will resume its program the third Monday in September.

JOHN T. CHEDESTER, President.

St. Paul Banquets

The St. Paul Amateur Movie Makers held their Fifth Annual Banquet on June 3rd, with Walter Gayman in charge of arrangements and Harold Lains as toastmaster. Feature of the evening was the awarding of prizes to the winners in the Club's annual "Best Film" contest and the bestowal of the Harmon Trophy.

President Oliver presanted the prizes to the winners, as follows: Placque to Victor Engquist for "Western Vacation," (8mm. color); placque to Irving Rice for "South of the Border" (16mm color); Honorable Mention to Harold Smith for his black-and-white film "S. S. Capital." The L. L. Harmon Trophy was won by Miss Agnes Marx for "The Green Album," 16mm. color. Judges were Ormal Sprungman of the Minneapolis Cine Club and Honorary Member Wm. S. Yale, Chief Cinematographer of the Great Northern Railway. The program was completed with a showing of the prize-winning films.

HERE'S HOW

For many years one of the most important services THE AMERICAN CINEMATOGRAPHER has performed for its readers has been the answering of technical questions about all phases of amateur and professional movie-making. These questions are usually answered by individual letters, to permit going into the necessary detail. However, in response to many requests, we also publish, in abridged form, some of these questions and their answers which we believe may be of interest to other readers THE EDITOR.

8MM. Enlargements

Is it possible to make still-picture enlargements from single frames of 8mm. film? If so, please tell me how to do it.

Richard Blake,
Pittsburgh.

There are several ways in which 8mm. frames can be "blown up" for still-picture enlargements. Some cinema-teurs have built themselves excellent enlarging devices which they use in conjunction with their projectors. A light-tight hood of appropriate proportions and shaped like the bellows of a still-camera is made, with the small end fitted to the projector's lens, and the large end carrying either the film-carrying mechanism of a discarded vest-pocket sized roll film camera or preferably a means for holding a vest-pocket sized film-pack adapter. A dark-slide like that of a still-camera plateholder is in either event placed directly before the film upon which the copy-negative is made. The front surface of this is painted white, and serves as a focusing screen; a light-tight trap-door in the hood permits watching the focus.

In use, the condensing-lens is removed from the projector, to bring the concentration of light and hence the exposure down to usable proportions. The projector's image is focused on the white focusing area, and the safety-shutter either removed or locked open. Then the focusing trap is closed, preventing any light but that forming the projected image from reaching the film, and the exposure made by removing and replacing the slide.

Eight millimeter frame enlargements can also be made with the Kodak 16mm. enlarger if two strips of 8mm. film are placed in the aperture side-by-side, so that they cover the opening completely. This will give two quarter-size frame enlargements on the enlarged negative: though these are smaller than those obtained with 16mm. in the same device, they can, if well made and given fine-grain development, be enlarged to reasonable snapshot size.

We understand that at least one nationally known manufacturer is preparing shortly to bring out an enlarging device exclusively for 8mm.

Filters for Semi-Ortho Film

I sometimes use various types of inexpensive semi-ortho film for my less important pictures. Recently I made a scenic shot using a red filter which has given me lovely results on the costlier films, and got nothing. What was the reason?

Arthur Kugemann,
Boston.

The semi-ortho film you used was probably sensitive only to the ultra-violet and blue rays, possibly a little into the greens and yellows. Your red filter cut off all of this light from reaching the film, leaving only the red rays and possibly some orange—to which the film wasn't sensitive. Therefore there was no light left with which to make any exposure at all.

There is a genuine distinction between the semi-ortho emulsions and the genuine orthos: the former are blind to virtually all light except the blue and on it filters are useless, while a true ortho is sensitive at least to the yellow and sometimes a trifle into the orange, and accordingly on it yellow filters may be used. Some emulsions, like Agfa's Plenachrome, while classed as orthos, are really all but panchromatic, and if you give a very generous exposure-increase, permit the use of even fairly heavy orange filters like the Wratten "G."

Fast Films Outdoors

Do you recommend the use of fast films like Eastman Super-XX or Agfa Triple-S Pan for outdoor scenes? If so, what is the advantage and when would you use them?

R. B. Jackson,
Beverly Hills, Calif.

The super-speed films you mention were made primarily for use indoors under artificial light, or under natural light when the illumination was especially poor. However, they can be used quite successfully outdoors *if* you can control your exposure so as to avoid overexposing them. This can be done with a heavy filter—a Neutral Density filter if you don't want the normal color-values of your scene altered—as such heavy filters will bring the exposure up from the very small stops indicated by the meter-reading (usually around f:22 or f:32, which is smaller than most cine-camera lenses stop down) to openings of f:16 or larger.

Aside from the obvious advantage of making picture-taking possible under extremely adverse lighting conditions, the chief advantage of using a super-speed movie film for normal exterior scenes is that it would permit the use of comparatively heavy filters, even with slow lenses, which might not be practical with slower films, and also the use of extremely small stops, which naturally increase depth of field, contrast and definition, and minimize out-of-focus difficulties. We can't exactly say we recommend the idea, for in most instances normal-speed emulsions will do quite as well and be easier to handle: but it can be done if you wish to.

Ink for Cartooning

I've been trying some experiments in making animated cartoons, but I have trouble in making the ink adhere to my celluloid sheets without running. Do the professionals use some special ink, or have they some special trick to make the ink stay in place? Or is a special kind of celluloid used? Please answer in "Here's How."

Henry Alonso,
Dallas, Texas

There's no special trick involved. Most Hollywood cartoon studios use the regular Higgins' Waterproof Black Ink, which you can get in any store that sells draftsmen's or artists' supplies. The celluloid generally used is regular Du-Pont celluloid, weight 005. The only special trick we can think of is to be sure the "cells" are clean, and not greasy from too much handling.

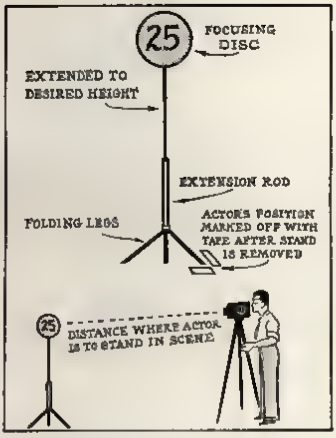
Sunset Exposures

What exposure should I use to film a sunset in Kodachrome I use a Filmo 8mm. camera with f:3.5 lens.

E. J. Gatchell,
Seattle.

Most sunset-shots are best filmed as silhouettes, with the sinking sun as the brightest part of the scene. The colorings on the clouds are the most important part of the picture. Therefore you don't need to worry much about the exposure on objects in the foreground. Close your lens down to its smallest stop, and shoot, being sure, of course, that the direct rays of the sun don't hit the glass of the lens to give you lens-flare. Under some conditions you can get some very interesting effects if you put your camera on a tripod and shoot the sunset in stop-motion, making single-frame exposures (which on your camera can be done by pressing the release-button up instead of down) at intervals of a few seconds. Just what intervals depends on the conditions; if wind is moving the clouds past quickly, the intervals will have to be short—a few seconds—while if the clouds aren't moving appreciably, they can be longer-spaced. Under such circumstances you would do well to have the exposure-intervals spaced five to ten seconds apart while the sun is well above the horizon, progressively shortening the interval as the sun sinks and apparently accelerates, and then possibly opening up the lens a trifle after the sun has set, to capture the softer colors of the afterglow.

THE IDEA EXCHANGE



"Stand-in" For Actors

Professional actors have understudies known as "stand-ins" to take their places while the camera is being focused and lighting, reflectors, etc., arranged. But the home-movie actor has to "stand-in" for himself—under the hot Photofloods indoors, and in the broiling sun outdoors. Therefore, I am very pleased to submit to "The Idea Exchange" a gadget I've built up and used, which I call a "stand-in stand" for home movies.

An old, used music-stand is employed. Remove the top part which holds the sheet-music, and in its place put a disc some eight or ten inches in diameter, fixing it to the stand's extension-rod in a vertical position. If your camera is fitted with a ground-glass focusing screen, like a Cine-Special, a DA Filmo or one of the magazine-type cameras, paint on this disc a bold pattern of black-and-white lettering or ruled lines upon which you can focus sharply. I've found large white figures on a black background are best.

To use the gadget, the person who is doing the filming opens up the folding legs of the stand and pulls up the extension-rod so that the disc is at the same height as the head of the actor for whom the gadget is "standing in." Then place the "stand-in stand" in the position to be occupied by your actor, and focus your camera on the disc. You can usually "rough in" your lighting with this gadget in place of the actor, too.

When all this has been done, you can mark the position of the gadget on the floor or ground with a couple of strips of tape. Then, when you are ready to shoot, remove the "stand-in stand" and the actor can take his place, positioning himself accurately by standing just behind the tape-strips.

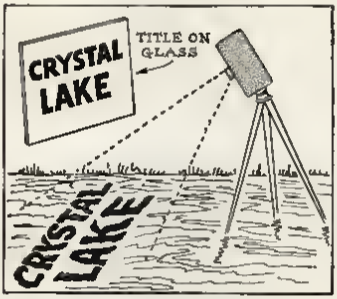
When not in use, the "stand-in" stand folds up compactly, and can be carried easily around with the tripod

ROBERT A. HEAVENSTON.

Moving Titles In Water

Looking around recently for an idea for a main title for a film made at a lakeside vacation-resort, I hit on this idea which may be useful to other filmers. I lettered my title on a large square of glass, using waterproof oil-paints. Then I laid the glass flat on the bottom of a shallow part of the lake, and shot downward at it, as shown in the sketch, meanwhile gently agitating the water (from beyond camera-range) with a paddle.

The result on the screen proved very interesting. The letters seem to "animate," distorting themselves slowly or rapidly, in straight-lines or curves, according to the way in which the water is agitated or, if the idea is done in a shallow spot in a river or stream, according to the flow of the current.

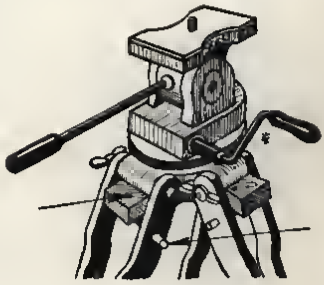


The idea works best in Kodachrome, with the lettering in paint colored to make an interesting contrast with the coloring of the lake-bottom background. Several variations are of course possible. By using opal, ground or frosted glass, you can get the effect of a clear white background with the moving letters superimposed upon it. By choosing a spot where there are lilies, rushes, or similar water-growths, you can often arrange very interesting, almost three-dimensional compositions. And you can make excellent lap-dissolves by agitating the water very strongly after enough footage of the first title had been shot, removing that glass and replacing it with another, and then shooting as the water, again strongly agitated, calms down. The effect of this on the screen is that the current blurs out the first title, and when it calms down again, the second one is revealed.

PETER SIEGMAN.

Holding Tripod Steady

Most movie-makers sooner or later suffer the embarrassing accident of having their tripod's legs suddenly spread apart when set up on a polished floor or similar smooth surface like cement pavement, rocks, etc., bringing the camera crashing down. The triangular wooden bases the professionals use to prevent such accidents are pretty cumbersome for amateurs to carry around, and the chain-connectors, etc., sometimes sold as "cures" for this trouble don't always work.



Here's a simple gadget I built to remedy this problem. It is small, inexpensive—and really practical. It enables me to open up my tripod-legs so that they automatically form a perfect equilateral triangle and can't slip or spread out.

I cut out a wooden disc the right size to fit under the top casting of my tripod,

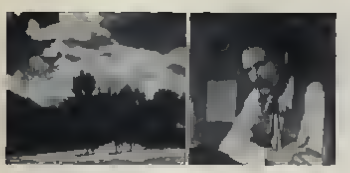
(Continued on Page 355)

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.

HOME MOVIES PREVIEWS

BUSINESS MOVIES



GRIZZLY GULCH

Scenario film, 1750 feet 16mm black-and-white.

Filmed by Carl Fallberg and Lars Calonius.

Without doubt this is one of the most pretentious amateur-made scenario productions we have screened. In general, it is distinctly above average: it shows a good grasp of story-construction and picture technique; its acting is much better than ordinary, and the detail to which the "period" atmosphere has been maintained is remarkable. Some of the exterior scenes reveal a definite eye for pictorial effect on the part of the cameraman.

But one or two minor criticisms can be offered. In some of the exteriors there is a definite tendency toward underexposure. This, we feel, is probably due to a misreading of the exposure-meter. There were in almost every case prominent white clouds in the sky, and our guess would be that the meter was read tilted too far upward, reading too much on the highly reflective clouds. The use of duped lap-dissolves is not always beneficial, as the duping throws the emulsion in these dissolves on the opposite side of the film from its normal position in the reversal original which comprises most of the footage, accordingly throwing the dissolved scenes momentarily out of focus.

While the continuity is excellent, there is definitely some confusion in the sequence introducing the card-sharper villain who so closely resembles the detective-hero, as to which character is being shown. This should be cleared up, possibly by cutting in the shots of this detective en route to Grizzly Gulch after, instead of before this sequence.

The film, however, is generally excellent and one of the better examples of painstaking amateur production.

ICE FOLLIES OF 1940 and ICE-CAPADES OF 1941

Novelty news-pictorial, 400 feet 16mm. Kodachrome.

Filmed by William E. Hight.

This film—or rather the two shorter films included on the one reel—is an interesting example of a newspicture in which the cinematographer obviously had no control over his exposure or lighting, and had to shoot what he could with what was available.

Cinefilmer Hight has done excellently with this. He has been able to film this difficult artificial-light subject at the normal 16-frame rate and, especially in the Ice Follies footage, to get a really surprising proportion of adequately-exposed scenes.

Hight's editing and particularly his self-made color titles are excellent.

BLOSSOM FORTH THE FRUIT

Educational, Documentary, 1150 feet Kodachrome, silent (sound speed.)

Filmed by William R. Hutchinson.

In presentation, continuity and basic visual treatment, "Blossom Forth the Fruit" is an educational film of better than ordinary merit, dealing with the commercial raising of apples, and produced with the cooperation of some of the highest educational and agrarian authorities in the State of New York. The technical cooperation of these authorities is sufficient to guarantee the authenticity of the film's subject-material, and Hutchinson's cinematic skill makes sure that it is a genuine motion picture rather than a series of still slides or disconnected shots assembled on celluloid. The continuity is very well thought out and executed; the compositions and camera-angles are excellently chosen, and the various sequences tied together with well planned and executed lap-dissolves. In a word, both as a filmed presentation of the facts involved and as a motion picture, "Blossom Forth the Fruit" is a really excellent film.

The many sequences of the various insect pests, blights, scales, etc., which can affect apples are truly outstanding examples of extreme close-up camera-work in Kodachrome. Some of the extreme close-ups of moths, bees, caterpillars and other insects destroying fruit and foliage have seldom been excelled.

From other, more technical viewpoints, however, the film is open to a certain amount of criticism. First and most obvious is the fact that the film needs sound in the form of a well-written narration, interspersed with a musical accompaniment. This, however, we understand is to be added.

Second is the titling. The titles, while well written and attractively, if plainly, laid out, are substantially black-and-white—black lettering on a white or gray-white card. This is by no means suitable for black-and-white, and very unsatisfactory for Kodachrome. It would be far better to have the background of the title cards a dark color (dark blue is uniformly excellent) with the lettering either in white or a contrasting light color.

There is also a definite tendency toward scanty exposure throughout. A few sequences—such as those in the packing-house—are definitely underexposed; others are right on the perilous borderline between correct and underexposure. This is well enough in the original, but it becomes a very serious drawback to a film of which, as in this case, silent or sound Kodachrome duplicates are to be made. It has been the experience not only of this writer, but also of most of the most successful commercial 16mm. Kodachromers, that Kodachrome that is to be used for duping should be somewhat overexposed: a correctly-exposed Kodachrome original will made a fair dupe; an overexposed one will make an ideal dupe; but an underexposed one will not dupe at all satisfactorily. Our suggestion would be that whenever Kodachrome is shot for duping, it should be exposed at a meter-setting one or even two points lower than the normal setting. For example, if one uses a Weston meter and normally exposes Kodachrome with a speed-setting of 8, Kodachrome for duping had best be shot at a speed-setting of 6 or even 5. The same is true of interior scenes in the Farm Bureau office and especially those in the packing-plant. We doubt if these would dupe at all well. Some of these interiors would benefit if they could be greatly over-lighted and the lens stopped down for maximum depth.

From the editing viewpoint, the major fault seems to be that the film really contains two separate pictures. It shows the growing of apples from the start in the spring to the shipment to the consumer. Part of this story is all too familiar to the apple-grower: for his benefit there should be even more detailed footage on the various sprays, what goes into them and the effects of using and not using them. For the general public, there is too much footage devoted to spraying, and certainly too much devoted to showing the various pests, parasites and diseases of apples. The film could very easily be divided into two separate 600-foot reels, one for strictly professional showing, the other for the consuming public.

Some shortening could be done in the opening sequence of the tree-pruning, in the various sequences dealing with spraying, and so on. We feel, too, that a more detailed statement of the what and why of the many sprays should be given, either in titles or in the sound narrative.

Some minor shortening and revising could be effected, too. There should in several sequences be a tightening of entrances and exits; one or two titles appear to be cut in late, as the one "The fruit of neglect is—" which could be more effective inserted at the immediate start of the sequence, rather than after the Agricultural Agent's notice has been removed from the mailbox.

...THE SHOWCASE...

"Professional Jr." Tripod

For some years there bas been a definite need for a tripod sufficientiy large, rigid and stnrdy for nse with the heavier 16mm cameras used professionally, such ca tbe Cine-Kodak Special, the Bell & Howell Filmo when equipped with motor and 200 or 400-foot magazines, and with the lighter 35mm. Eyemos, DeVrys, and similar outfits extensively used in newsreel and commercial camerawork, all of which require a bcse more rigid than the tripods usually sold for amateur use.

This need appears to have been met with the introduction of the new "Professional Jr." tripod recently developed by the Camera Equipment Company, of New York. It is stated to be among the most rigid on the market, and designed and built to professional standards throughout. The head is of the professional friction-loaded pan-and-tilt type, permitting a 90° tilt with any type of camera, and fitted with quick-release adjusting levers for both vertical and horizontal movements. The head bas a wide flanged base and the pin and trunnion support is generously oversized for long wear.

The wooden legs are of the type first introduced by Akeley some years ago and since standardized for professional use a single quick-release knurled knob between each of the double legs permits instant one-handed adjustment of height and quick, positive locking in any position. The beigbt can be adjusted to anything between a low position of 46 inches and a maximum height of 86½ incbes (over 7 feet). The top-plate is interchangeable and can be set for use with the Eastman Cine-Kodak Special with either 100 or 200-foot film-chambers and synchronous motor; Bell & Howell Filmo or Eyemo with or without motor and auxiliary magazines; DeVry, etc. The "Professional Jr." tilthead la stated to be guaranteed unconditionally for 5 years. The new tripod is stated to be already in nse by newsreels and by leading 16mm and 35mm. commercial producers for both silent and sound filming.

New Research Laboratory

A new independent laboratory for pbotographic and chemical research is being estahlished at 7715 Santa Monica Blvd., Hollywood, hy Ralph B. Atkinson, who for the past several yeara bes been essociated with the West Coast Technical Division of the Eastman Kodak Company, in Hollywood, and before that was similarly engaged with Bachrach, Inc. The new rescarch plant will be known as the Atkinson Laboratory and will specialize in all types of photographic and chemical rescarch.

Head of tbe new organization, Ralpb Atkinson, graduated from the Massachussetts Institute of Technology in 1929 and obtained a Master's Degree from the California Institute of Technology the following year. During his years with the Eastman Kodak Company's Hollywood Technical staff he carried through many research projects which have been of benefit to practical operations of motion picture studios and lahoratories. Among them his "Specifications for Chemical Analysis of Pbotographic Developers and Fixing Baths" won bim an Academy Technical Awerd Certificate in tbe 1940 Academy Awerds.

New Magazine Eight

Hailed as the second magazine-type 8mm. camera to reacb the American market, the newly-announced Cine-Perfex double-eigbt camera is announced by its manufacturers, the Candid Camera Corp. of America, 844 West Adams St., Chicago, as a movie-making companion to the Perfex Fifty-five 35mm. still camera. The new 8 uses standard Eastman 8mm. magazines, permitting instant changing from black-and-white to color-film It has a revolving three-lens turret and five operating speeds The price, with f:2.5 Wollensak 12½mm lens, is $59.50.

New Agfa Film Booklet

A new 80-page booklet on "Choosing Film for your Camera" is announced by Agfa Ansco, and is availahle either from this firm at Binghamton, N. Y., or from photographic dealers. Dealing primarily with the firm's products for amateur and professional still pbotography, this booklet is stated to contain both general and technical information on all of the firm's film-types and their use. Included are data on properties and applications of Agfa films; correct exposure and processing; filter factors; wedge spectrograms; characteristic curves; color-contrast, brightness-range and graininess data; exposure-tables, meter-settings, developer recommendations, etc. The price is 25c per copy.

Cinemaster Duo-8mm.

Big brother to the well-known popular priced Univex Straight 8mm. camera is the Cinemaster Duo-8mm. camera announced by Universal Camera Corp., 28 West 23rd St., New York. The new camera, available in a wide range of models and prices, is designed to take any standard type of double-8mm. film in either black-and-white or color, and in addition to accept Univex straight-eight film. Other features include operating speeds of 16, 24 and 32 frames per second, built-in extinction-type exposure - meter; interchangeable lenses, etc.

Price Industries Corp.

In the item about the Princeton Photo Switchboard, which appeared in this department last month, we inadvertently neglected to give the address of the makers, Price Industries Corp. So many readers bave written in for this address that we are glad to state it is 130 West 17th St., New York.

Kodak Service Rangefinder

The Eastman Kodak Co. announces a new military-type split-image rangefinder, known as the Kodak Service Rangefinder. It operates on the horizontally split field principle, making it exceptionally easy to use under even adverse conditions. There are two distance scales, one ontside the unit, the other inside, and visible directly above the image when using the finder. The range is from infinity to 2 feet, which should make it especially useful to cine-amateurs close-nppmg small flowers, insects, etc., and in title-making Supplied with a suede-finish carrying pouch, the price is $5 75.

Color Print Service

Wash-off color prints from 35mm. Kodachrome at really popular prices are announced by the newly-formed Color Prints, Inc., 1711 North Vermont Ave., Hollywood. By standardizing on one size of original—35mm and Bantam Kodachrome transparencies, and one size of print—8x10—the firm is steted to be ahle to turn out individually-balanced 8x10 color prints at the low price of $3 00 per print, with additional prints from the same negative priced at $1 each if ordered within 60 days.

RCA-Victor Sound-effects Library

Amateur and commercial filmers interested in adding sound-effects to their pictures will be interested in the library of recorded sound-effects availahle from the RCA-Victor division of the RCA Manufacturing Co., Inc., Camden, N. J.

(Continued on Page 355)

Clouds

(Continued from Page 315)

is doubly grateful, for he well knows that his filters cannot do anything to that type of sky to improve it. The "cloud machine" is not so color-conscious and will deliver a beautiful sky scene whether the natural sky be hazy or blue.

The use of graduated Neutral Density filters permits considerable control to be exercised to make the plates and foreground scenes balance up. As the intensity of the sky in nature varies much between a front light and a strong back-light, a great number of densities of the same plate would be required if some such control were not possible. However, in practice it is found that front-lighted clouds to be used with front-lighted scenes are printed a certain density, side-lighted clouds are printed slightly darker, and transparencies for back-lighted scenes are printed darker still. Obviously, a plate of back-lighted clouds is not appropriate for a front-lighted scene, so the plates are in a great measure properly balanced and no further modification is usually necessary. It is quite possible to obtain spectacular sunburst effects with any suitably back-lighted scene. However, as the sky varies in intensity more in this lighting condition than in any other, the graduated neutral density control reduces the number of densities of plates necessary for the proper balance of these scenes. Hence, if the sky is extremely "hot" and the clouds are rendered too light, the graduated filter is used to subdue the sky, whereas if the clouds appear too dense in relation to the foreground then the graduated filter is inverted to subdue the foreground portion, thus allowing the sky-area to print lighter.

At our studio about 20 different plates are carried. They include various examples of front-light, side-light and back-light subjects, the same plates with various blend-line heights, for use with medium and close-up scenes and plates in which the cloud arrangement falls off on one or both sides to be used where one wishes to include a building, tree or like subject in the composition.

As any of the plates may be reversed as to left and right to fit the composition or direction of light, this reduces the numbers of plates required. The same plate may be used one way in one sequence and later reversed for another sequence in the same production.

An example of this is in the production "Romance of the Rio Grande." This picture was made last fall when there were weeks on end during which the skies were cloudless. Almost every exterior scene in that picture is made with this invention and for a while I was beginning to fear that I would have to repeat on some of the cloud plates. Reversing the plates gave a whole new set of transparencies.

Had these clouds been put in by other means, the cost would have run into several thousands of dollars. As it was, the cost was infinitesimal. Some interesting shots came about in that picture. In one case the actors are standing on top of a stage-coach near the top of the frame with "clouds" apparently well behind them. In another case an intricate dual-role split was made against a sky background, where had the clouds been moving, all would have been lost.

When one is familiar with the equipment there is no loss of time in arranging the scene. The set-up is almost like that for a normal scene, there being no necessity for elaborate tie-downs, steadiness tests and the like. The visual effect is there on the ground-glass so the cinematographer can see exactly what he is getting and no further tests or experiments are necessary before the scene can be made. As new plates are made they are tested before being put in production use, so that the location-box is well in order.

With portability and economy in view, we use as small a transparency as is practical. Most often this equipment is used on location where transportation is a vital factor and its advantages would be lost if it were not possible to carry it along with the regular camera equipment. For the stationary shots we therefore use 11x14 plates, with a suitable adjustible holder attached to the matte-box. From the back of the plate to the matte-box a bellows is fitted to exclude any rear reflections, while the usual umbrella is all that is necessary to keep any direct light from hitting the front of the transparency.

In the panoramic attachment, the plates are made on film 16x40 inches in length. These work in an arc about the lens and give ample height for tilt and width for about a 50-degree pan. Films are used for this purpose so that they may be curved to the radius of the panorem, thus presenting a uniform surface to the lens in any position of the pan.

The holder for these plates has been designed in our Camera Department precision machine shop and is a clever attachment that combines lightness, ease of operation and adjustment, and is quite compact. It is attached to an auxiliary plate between the tripod and free-head, for as can be understood the camera must be able to pan independently of the plates. It must be manifest that a panning shot made within such limitations is quite an achievement of trick photography, displacement or "slippage" taken into account.

Full credit must be rendered Supervisor of Photography Dan Clark, A.S.C., and Grover Laube of our Camera Department whose aid and abilities rendered this "impossibility" a reality. Fred Sersen's Scenic Art Department has been most helpful in placing negatives and laboratory work at my disposal.

Aside from the ease and small expense of putting in clouds in the above-described manner, the system has a decided advantage in another respect. Heretofore all action in such scenes had to be performed below the horizon line, or else when the sky portion was duped in, the action would cross over the blend-line. As can be understood in this new process, the "cloud" is in reality perfectly transparent so the action can be through the cloud area, the appearance being on the screen that the action is in front of the cloud. Of course a suitable plate must be used where filtered sky areas do not come over the action. Every kit includes several plates of this nature for use where the action is required to fill most of the screen.

Figures 13 and 14 are examples of this type as well as an example of the type of plate used where buildings and trees cross over the horizon. In Fig. 13 the action has ridden from the distant right well into the foreground as in Fig. 14. Figure 15 is likewise an example in which the actor is well up into the sky area. In these illustrations I have used clips from various tests we have made because they show examples of the scenes as they actually were without clouds, as in Figures 1, 4 and 7, as well as comparison frames after the clouds had been put in. Figure 2 shows the beautiful setting that can be made of Fig. 1; five and six are creations from Figure four.

Figure six likewise shows how foreground objects may be incorporated for composition where needed. Eight and nine are variations in mood of Figure seven. Where dark objects, such as the masts in Figure eight run into the filtered sky area, no "ghosting" is apparent though live action could not be used in the sky area of this particular plate.

In a plate such as Figure 12, action can be placed well towards the top of the picture. A plate such as this can be used for close-ups, thus keeping the cloud formation consistent with the extreme long shots. Please observe in all except Figure eleven, which has been made purposely out of balance, how the effect of distance is realistic and how the "clouds" appear to be actually behind the trees and buildings of the distance.

Figures ten and eleven show a balanced and unbalanced scene respectively. While these are two densities of the same negative, Figure eleven would be satisfactory if a neutral density filter control were placed on the lower half. Figure eleven was photographed at about 2 P.M. The same density plate would be valuable without control later in the day, when the sky would be much brighter.

While these few examples in no wise show the full limit of the process, they should convey some of its possibilities. For example it is quite possible to use the same principle with blue-toned or blue-dyed transparencies for color-photography as my Kodachrome movies well testify. The only draw-back to employing it with Technicolor at present is the inability to use wide angle lenses and

Hollywood Reporter
Preview Poll Awards
To

ERNEST PALMER, A.S.C.

DIRECTOR OF PHOTOGRAPHY

Twentieth-Century Fox

"BLOOD AND SAND"

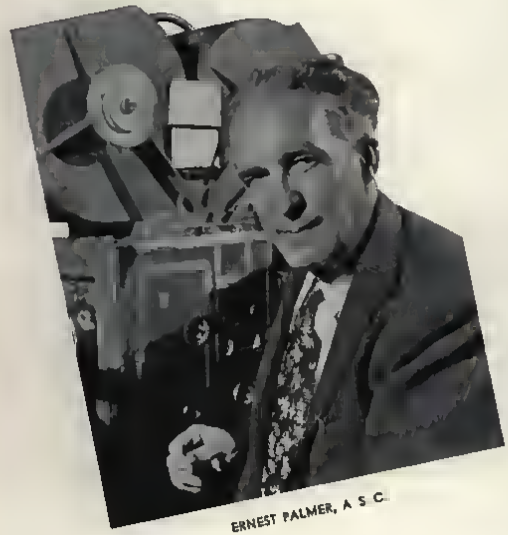
IN

TECHNICOLOR

and

RAY RENNAHAN, A.S.C.

FOR TECHNICOLOR



ERNEST PALMER, A. S. C.

RAY RENNAHAN, A. S. C.

EASTMAN FILMS
BRULATOUR SERVICE

atop down sufficiently. The utilization of larger plates would overcome this limitation. On those days with white skies this system would be particularly advantageous.

The process will never supplant the beauty of real clouds, nor is it intended to. But when nature has not been so kind, and the cinematographer is stuck, then this process is a friend indeed. It has been most gratifying to me to see the active co-operation of the Directors for this system. Fortunately they appreciate the value of scenic beauty to the picture and are just as enthused as the cinematographers are with this new tool.

The value of the system was again proved to me the other day in my last picture, "The Last of the Duanes." A sequence had been taken where these synthetic clouds were used; a retake for dialogue was necessary. We made a portion of the scene over, using the same transparency so of course the sky of both scenes is identical. No one will ever suspect there was a re-take made several weeks later.

For short sequences the back lot now presents attractive skyscapes, and the cost element is a minimum factor. For background projection plates it is a boon, for the process cameraman can put in the same cloud formations that the production cameraman uses, though he may make his plates days before or after the production scenes are made.

Clouds that fit the mood of the scene may be selected at will. Bright fleecy clouds may be used for the usual run of scenes or sombre, threatening formations to indicate approaching storm or trouble as the mood requires. It is quite practical to give movement to the clouds by slowly moving one or more plates across the field as the scene is being taken. However, in the majority of cases this is unnecessary for in editing the scenes do not remain long enough on the screen to detect motion.

Lest I be accused of being over enthusiastic about the matter perhaps it is well to quote Dan Clark. He says, "This method and its related devices has been developed and used by Twentieth Century-Fox for some time, and has proven to be a great stride in economy as well as an important factor for enhancing the beauty of photographic effect."

Intelligent use of the devices should always be exercised as well as rare judgment when making the original plate. Its composition and future uses must be well visualized. With these precautions, the cameraman may go forth and bring in the goods. That this system is catching on from our success with it is evidenced by the interest that other cinematographers have shown in it. I understand that Warner Bros. and Paramount are building outfits, and I predict that in the near future it will be standard equipment in all the studios. If it does, I shall be glad that I have in a measure proved its practicability. END

China's Camera-Aces

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country, but in a larger sense for world peace and the real brotherhood of man.

Before the war came to China, China had a film industry. Studios scattered through the great coastal cities—Shanghai — Hong-Kong — Canton — Peiping—Nanking—were beginning to produce theatrical films and documentaries for the entertainment and education of China's masses. Today, they are in the interior—sometimes in Chungking, sometimes wandering far afield wherever their tasks may take them—making still and moving pictures for their country. They have not been drafted into the army; they are in no sense a Government Department: they are private citizens, banded together as a private photo-service, working with the aid and co-operation of the Government, but with their own resources, giving their time, their skill, and often their lives for their country.

They make their pictures in both 35mm. and 16mm., as the occasion and the subject may require. Their equipment—what there is of it—is good. 35mm. Bell & Howell and Mitchell studio cameras, Eyemos and DeVrys, and 16mm. Filmos, Bolexes and Cine-Kodak Specials. Just before I left Chungking, they ordered an Art Reeves 16mm. sound-on-film recorder, which is by now probably serving them well.

Their film is all too scarce. Some of it is 35mm. Agfa or Eastman negative, carried thousands of miles from England or America through Russia, or along the Burma Road. Most of it is 16mm reversal-film—Eastman, Agfa or Gevaert—which they process themselves despite the amazingly crude rack-and-tank processing equipment which is the best they can afford. Racks, like so many other things Chinese, are of bamboo; the drying-drum is also of bamboo, strung between two discarded 'rickshaw wheels. Their printers are often self-made. Yet they turn out amazingly good work.

Getting their pictures is a dramatic saga in itself. Continuously on the alert, cameras strapped to their backs, the precious films carried in waterproof cases, they journey to their locations, crossing mountain rivers on primitive bamboo rafts, sleeping, Spartan-like, on floors—even in stables—stopping at little wayside inns for a bowl of rice and a sip of hot tea, going wherever they may be needed—wherever there is a picture of any sort that will help China.

At the front, they wear semi-military uniforms and wear soldierlike "tin hats." They carry gas-masks for emergencies, and live the life of a soldier. When they need a close-up of some machine-gun or sentinel, they don't "stage" it as they would have during their peace-time studio days: instead, they'll creep slowly and perilously up to and often through the barbed-wire to get that shot—and perchance, to get shot for getting it!

With bad weather as a constant handicap—to say nothing of cold in the far northern provinces such that fingers freeze to cameras, of fogs that no haze-filter can stop from penetrating to one's very bones—they stalk their prey with lens and film. They have told me of the trouble they find in filming many of the most really significant details of the actual fighting. Chinese armies prefer to fight at night, to the discomfiture not only of the enemy, but of their own photographers! They've told me, too, of the thousand-and-one ways in which visiting cameramen of the leading American newsreel and newspicture services have helped them, and how they strive to return that help in all possible ways, knowing full well how important it is that true pictures of their fatherland's war effort be sent to friendly foreign newspicture markets and readers.

Most of these men have had occasion to meet more "big-shots" and to listen to more speeches than any but perhaps an American newsreel man in Washington. For hours they have stood listening intently to the Generalissimo as he delivers his masterpieces of speech; they have followed the First Lady of China, Madame Chiang, on her trips to the orphanages and made a record of her genuine love and care for these little ones.

These men of lens and shutter have peered through their viewfinders and discovered new angles on almost everything that can affect China's program of reconstruction and resistance, of her behind-the-lines drive to modernize the vast hinterland and its millions. They have filmed story-telling pictures that help keep up and build the indomitable spirit of Free China—China's warplanes and their keen-eyed young pilots, both slowly increasing in numbers against the day when they can deliver telling blows at the invader's warriors—the might of China's immense manpower reserve—her growing industrialization that is turning out materials of warfare—the aid that is coming from abroad, and how it gets there.

And besides this, they are turning out films which will educate China's masses to do their bit better, more efficiently. Documentary films of the "how-to-do-it" order—films showing the importance of the Cooperatives or C.I.C.—the suppression of opium-smoking—places and people formerly unheard-of, from the great far west of China—Singkiang and Mongolia—that have joined up in the great resistence against the enemy.

And they show these films everywhere. Sometimes to a camp-full of soldiers at night, with the screen a white-painted patch on the wall of some building or even on the rock wall of a cliff—the purring 16mm. projector fed by a hand-powered dynamo "pumped" by cheerful coolies who sing as they work, and occasionally rest for breath, while the projector stops for want of juice. A few months ago, deep in the interior, China made a new airport—said by experts to be the biggest and best in the world. Fifty thousand men came from all parts of China to work on it. A mountain

stream was dammed and diverted to a new bed, running around instead of through a cliff-walled valley. Circular holes were blasted in the rocky cliffs, and from them, huge, cylindrical rock rollers were taken to the boulder-strewn floor of the valley where—five hundred men to a roller—they were hauled back and forth until the floor of the valley was a smooth as a billiard-table. And during the nights, a white-painted square on the cliff-face became a screen for movies by which the cameramen of Chungking entertained and educated the workers!

Their silent films are educating and unifying a nation, bringing to its people and to the world the living history of China's achievements. Their sound films are slowly leading the way to the establishment of a truly national language in place of China's myriad tongues and dialects. And yet these cameramen of New China are volunteers in the strictest sense—doing what they do, risking their lives for devotion to an ideal!

And that's my story this time. It is not really a story. I call it a poor rendition of a great symphony—the silent symphony of those camera-aces who are doing their part for China and the world. They're in there now, grinding silently away; and they'll be in there in time to come when, I am sure, the greatest picture in China—the victorious march of China's troops through Nanking, the liberated Capital, is filmed. And I hope there may be an A.S.C. member in that day, standing beside these obscure heroes of dugout and battlefield to whom America, and particularly American films and film-makers, represents the great admired friend from overseas!

But today, China and her people are still at war. And to those who might be interested, let me say that these camera-aces of China, banded together as the Thomas Kwang Newsphoto Service, can provide pictures of wartime China, stills and movies in 35mm., 16mm., and 8mm., the latter two in both black-and-white and color.

And if any reader finds himself in China, let me urge him to go to Chungking, and stand at the foot of T'ai-piao Hill, "free to the birds alone"—and visit the dugout where I found these men whom I call "China's Wartime Camera-Aces." END.

An Artist Looks at Technicolor

(Continued from Page 318)

and the others, any more than he could repress a feeling of elation on learning that at last there has been established a definite, well-recognized alliance between the fine arts and the cinema. For only such an alliance (really understood, intelligently exploited) will fulfill the promise the cinema has always held and seems now on the point of realizing; which is to itself become one of the fine arts, but the one best designed to reach the greatest mass of the people, and thus to achieve its destiny as the greatest art of modern times. The share the cinematographer will have in this triumph is an immense one. He is to be congratulated on his enviable position as *the* artist of the day. END

Arc Boosters

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ly, the player tends to squint in reflector-lit exteriors. The softer light of the Mazda booster minimizes this problem.

But the modern Technicolor-type arc, I have found, is as much easier on the eyes than the Mazda as the latter is in comparison to sun-reflectors. Therefore I have found—as Technicolor cinematographers have before me—that I can use arc boosters in greater profusion and intensity without troubling the eyes and expressions of my players than would be possible with any other method of lighting.

In theory, at least, there should be yet another advantage to this idea of using arcs as boosters. I have not as yet had an opportunity to try it out, but on theoretical grounds, at least, it should exist. It should allow additional freedom in the use of filters on close exterior shots of people.

Most of us have learned from sad experience that it is best to keep on the conservative side as regards filtering where a sequence calls for angles closer than long-shots, since the heavier filterings, though they may improve the pictorial value of the background, will also tend to distort the normal rendition of facial tones until, with the heavier warm-toned filters, we can completely "chalk up" faces and lips. And we can't often employ the trick I've sometimes used in location scenes where practical interiors and exteriors were combined, putting colored glasses or gelatin in windows to act as a huge filter behind the players to correct the background!

The filters we would want to use would be the various orange and red ones which tend increasingly to lighten face-tones. When warm-toned incandescent booster-lighting is added to this filtering, the effect would naturally be increased. But does it not seem logical that this filtering effect might be considerably lessened if, for lighting the faces of our players, we substituted the more blue-white beams of arcs, possibly unfiltered arcs? It would probably not work with the extremely heavy red filters which have a sharp and complete cut-off in the blue end of the spectrum; but for the lighter filters normally used it would seem that this use of arcs might very well give us what we have for some time wanted, namely the ability to mildly overcorrect our background without at the same time overcorrecting the rendition of our players.

In general, then, it seems to me that the use of arcs as booster-lighting units is something which offers many immediate, practical advantages, and in addition, opens up several useful new fields for experimentation. As such it seems worthy of increased attention by members of the camera profession. END.

Jimmie Howe

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super-fast emulsion for production camerawork differ. Some cinematographers like to employ substantially normal lightings, with shortened development, using the film largely for the softer gradations it gives. Others like to over-light considerably and then stop down for extreme depth. My own inclination is to give the film virtually full normal development, and to utilize its additional speed to make possible still lower levels of illumination. Using the conventional Plus-X negative, my normal average key-light level is about 70 foot-candles. In my experiments with Super-XX, I have cut this to approximately 35 foot-candles, and obtained a beautiful negative of thoroughly normal density and beautiful quality.

"There is one thing about modern cinematography," Howe remarks, "which I feel no one has emphasized sufficiently. This is the profound influence the photographic and picture-magazines which have become so popular during the last ten years have had on styles in studio camerawork. We all of us recognize that what we would have termed a well-photographed picture ten years ago does not seem nearly so good an example of photography today. Where, for example, ten years ago nearly all of us employed really heavy optical diffusion, and lightings that were, to say the least, inclined to be splotchy, today our work is entirely different.

"Even before Gregg Toland, A.S.C., came along with his 'Citizen Kane,' there was a marked tendency in every studio toward crisper definition and greater depth, sometimes accompanied by increased contrast. Better lenses—coated and otherwise—have played their part; so have the snappier contrast of modern emulsions and the improved definition obtainable from fine-grain positive. But to my mind, the biggest factor in this transition has been the change in the public taste. This is directly traceable to the growth in popularity of miniature-camera photography, and to the big picture-magazines like 'Life,' 'Look,' and the rest, and such modern photographic magazines as 'U.S. Camera,' 'Popular Photography,' and the others. The public has seen the stark realism of the newspicture reporters, and the pictorial strength of the work of the modern miniature-camera photo-illustrators and pictorialists.

"It wants something of that type of realism—modified to suit the motion picture medium, perhaps—but still maintaining the same realistic tone, in its movies. We — cinematographers, directors and producers alike — must necessarily give it to them. Therefore our style of cinematography has changed, so slowly and subtly that we ourselves have scarcely been conscious of it, but very definitely none the less.

"I doubt if cinematography can ever go quite as far in this direction as still

photography; it would be difficult to capture consistently with a movie camera and the ever-changing requirements of a picture's dramatic action, the f:128 crispness Edward Weston, for example, gets into his stills. But when I compare the ultra-fuzzy scenes we made fifteen and twenty years ago with the vastly more natural effects to be found in any well-photographed picture today, I cannot help feeling we have advanced."

From all of which it can be deduced that Jimmie Howe is a photographic progressive. He is; that Irish schooled imagination of his has kept him exploring new methods and ideas, both technical and artistic. He was among the first cinematographers to make use of panchromatic film, back in the days when the whole world was on an orthofilm basis. He was one of the first to use panchromatic for both exteriors and interiors alike. He was one of the first to use incandescent lighting. He was one of the first to admit he could satisfactorily photograph a rugged leading man without the questionable aid of make-up. And he was one of the first production cinematographers to make a film with the three-color Technicolor process.

In that film—it was Selznick's picturization of "Tom Sawyer"—he pioneered in a direction which is just now being re-explored: the *elimination* of unnecessary color from a Technicolor production, in order that it might be more effective—and more natural. "Tom Sawyer," it will be remembered, was begun as a black-and-white picture. Only after several weeks of production was it decided to make the film in Technicolor.

"Then," Jimmie reminisces, "they wanted to rebuild and repaint the sets—to make them more colorful, because the picture was to be in color. I fought that idea to a standstill, and finally persuaded them to let me continue with the same sets and costumes that had been designed for the black-and-white production. The only concession made to color was in replacing such table-cloths, sheets, collars and similar fabrics which, for the monochrome version, had been tinted light amber or blue to minimize halation, with actual gray-white materials.

"The result was one of the most natural-appearing color pictures that had been released up to that time. But one sequence in it was specially 'designed for color'—and it, instead of being a strong point in the film, became one of the weak ones. The scenes the audiences seem to remember were those where we used the identical sets and costumes made for the black-and-white production.

"I can't help feeling flattered that it is only now that such noted Art Directors as Cedric Gibbons, with 'Blossoms in the Dust,' and Richard Day, with the various recent musicals from 20th Century-Fox, are beginning to stress this same idea of minimizing color—of letting the Technicolor camera capture a 'natural' effect rather than something 'specially designed for color!'"

There's another side of the matter that Jimmie Howe is too modest to mention. That is that he made his Technicolor production—using, of course, the old, slow-speed Technicolor negative film—using in many cases less light than is generally being used in today's Technicolor filming with much faster film and improved laboratory methods. And his mastery of the color medium may be best expressed by one of his associates on "Tom Sawyer"—a distinguished cinematographer in his own right, who declared: "I've been photographing Technicolor for many years, and thought I knew something about it. But I didn't really begin to learn what could be done in lighting Technicolor until I made that picture with Jimmie Howe!" END

"Inkies" in Technicolor

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been too small to be of use in Technicolor lighting, have become at least as valuable as they were in monochrome before the introduction of today's super-speed black-and-white films. Such small, compact units as the "Baby Keg-lites" are proving invaluable in modern Technicolor lighting. They may be placed with greater precision than is possible with bulkier units, and even in some instances concealed within the scene.

As a matter of fact, I am inclined to believe that the "Dinky Inkie," small as it is, can today be of value in Technicolor lighting. To that end the Electrical Department of the 20th Century-Fox Studio is now in the process of adapting a "Dinky" for Technicolor use, making a corrective filter from a broken piece of a discarded larger one. I know that this little lamp will be useful in lighting faces—especially in eye-lighting—and I anticipate it will also be handy for special lighting tasks concealed within the scene itself, exactly as we use these units in monochrome.

There is still another important aspect to the use of incandescent lighting in Technicolor, that is their use in color-effect lighting. In this respect, the Technicolor cinematographer has an enviable range of useful tools readily at hand. The high-intensity arcs with their "Y-1" filters, and the inkies with their Macbeth filters, give a daylight-white light for normal effect.

Remove the "Y-1's" from the arcs, and you have illumination of a steely blue which is excellent for moonlight effects. Add to them a blue filter, and you can heighten the bluish night-effect when such exaggeration is dramatically necessary.

In the same way, when you remove the normal corrective filter from the incandescent units, you obtain a natural, warm-toned effect—yet one that is still by no means reddish—which excellently simulates lamplight. Further warm-toned filtering, or sometimes the use of standard Mazda globes in place of the "CP" type, will give excellently realistic torch-light and firelight effects.

These varying light-sources can often be combined in a single scene, to great pictorial and dramatic effectiveness. A few days ago, in a scene for my current production "Honeymoon in Havana," I had such a lighting. The scene was inside a luxurious hotel-room at night. On one side was a balcony, bathed in moonlight. At the other was a table upon which was a softly-shaded table-lamp with an amber shade.

As we wished to produce an essentially normal effect, the set and players were lit quite normally with intermingled arcs ("Y-1" filtered) and blue-filtered inkies. The moonlit balcony was lit with high-intensity arc spotlights from which the straw-colored filters had been removed, creating a faintly blue moonlight effect. The "practical" globes in the table-lamp were Photofloods, and an unfiltered 5-KW inkie spotlight was suspended directly over the table on a "trombone," with its beam, diffused with a "cello," pointed directly downward to illuminate lamp and table. Another large inkie spotlight, with its blue filter in place, was swung above the set on a rope and pointed straight downward for added general lighting.

The main part of the action took place at a door, necessarily close to the angled side-wall. To light this action properly, two inkies—a "Junior" and a "Baby Keg"—were hung from the wall on trombone-hangers, and placed conveniently above the actors, where their beams could be used as key face-lighting. Foreground general lighting was produced by mixing the beams of a pair of arc broads and several filtered "Juniors" and "Baby Kegs," well flooded.

When viewed from the black-and-white cinematographer's standpoint, this scene is obviously nothing unusual. With the exception of the use of the arcs for part of the lighting within the room, and of course the corrective filtering on most of the lamps, there was nothing in the lighting which would be particularly novel from the black-and-white point of view. But in color, without the flexibility of the inkies which permitted their use on hangers and in steeply-inclined positions, that action—especially that played close to the wall—would without doubt have presented serious and delaying inconveniences.

But by making full use of the whole range of modern lighting equipment now available to the Technicolor cinematographer—using arcs in their place, and incandescents in the places to which they are particularly suited, we were able to film the scene in color quite as easily as we would expect to do in black-and-white—and much more effectively.

And that, I think, is the real significance of the use of incandescent light-sources in Technicolor camerawork. Arc and inkie each have their vital place in modern Technicolor lighting; but the addition of the inkie has added measurably to the convenience, celerity and effectiveness of Technicolor lighting, and done a great deal to prove Technicolor's contention that, properly handled, the

addition of color no longer exerts a retarding influence on a production unit's activities, but adds mightily to the effectiveness of the completed film. END.

Editor's Finder

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for all their overly serious efforts, while the apparently slipshod, playful group was able to stop work early, comfortably ahead of schedule. And we're sure that a great majority—if not actually all—of the industry's most successful productions, financial as well as artistic, came from "happy" production units.

We wonder if there isn't a constructive lesson for all of us in that. We in the motion picture industry hear and say a great deal about what our films do toward building up and maintaining the morals of our customers, the theatre-patrons. But there's mighty little said or done about keeping a "happy," efficient morale among the people who make motion pictures. Of course there are studio clubs—dances—golf, tennis and bowling tournaments—picnics, and the like. But how pitifully little is done to assure that efficiency-building morale at the time and place where it really counts—on the set during actual shooting.

By this we don't mean pep-talks and community singing between takes; after all, most of us are mature people, fully mindful of the fact we're engaged in a business where time and productive results are money. But a vast deal can be done for efficiency in minimizing the mental and nervous strain built up by some directors, producers, assistant directors and unit managers who constantly harry everyone on the set with an urge to speed things up—and consequently make them "press" so hard, to use the sportswriter's term, that they actually work slower and make more mistakes than if they had been allowed to do their work cheerfully. Some day, we're sure, someone is going to try this simple formula—and become overnight the greatest efficiency expert the industry has ever known!

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EVERY so often you'll hear someone complain that the photography in this studio or that—possibly in the whole industry—has become stereotyped, and lacks originality. Sometimes that complaint may be justified by undue executive interference with photographic work. But often it isn't due to that, but to inescapable conditions dictated by the personalities that studio's cinematographers must photograph. When you're faced in almost every picture with the problem of making feminine stars who are, to speak kindly, no longer young, appear less than half their age and glamorous, to boot, and of taking twenty years off the age of male stars and leading men, you dare not experiment radically.

We have in mind one major studio at whose brilliant camera staff this charge has more than once been levelled. Offhand, we'd doubt if, out of a truly impressive contract list, they could find more than three front-rank feminine stars who are under thirty, and more than a scant three male luminaries sufficiently young to be worried about the draft. Yet all of that studio's remaining (and impressive) stars, including some of the great names of filmdom, are repeatedly cast in roles demand at least the illusion of youthful charm. How else can the men at the cameras provide it than with conservative lightings that eradicate wrinkles and minimize the effects of years and sometimes of self-indulgence?

We'll wager that fully half the photographic originality in Gregg Toland's "Citizen Kane" was made possible by the fact that most of his players were genuinely youthful, and did not, moreover, have to be presented on the screen as they had appeared in other films for some ten or fifteen years. We'll wager, too, that if the same cinematographer were assigned to a film starring a more mature star—masculine or feminine—who had in spite of the years to be kept glamorous, he would abandon much of "Citizen Kane's" original—and revealing—technique.

This situation is not confined to any one studio; it is familiar to directors

of photography on every major lot. True enough, they have many good friends among the established stars, to whom they as well as the public are loyal. But how they'll welcome the appearance of new and younger faces before their lenses! There seems already a trend toward the development of newer and younger acting talent—the most pronounced, perhaps, since the coming of sound. And as it develops, we'll wager that hand in hand with it will go a marked trend toward less conservative camerework. END

Reflectors

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a bit closer and "hotter" than the other, to give a nice modelling. In a case like this, it is better to have one reflector nearer the subject than the other than to use a "hard" reflector for one side of the face and a "soft" one for the shadow-side, for the "hard" reflector gives too strong a beam to be really pleasing.

If you are working in the shade, as for example on a porch, under a tree, or in the shadow of a house, you can use this same method, placing your reflectors out in the sun and shooting their beams in where you want them. Where you are deep in the shade, "hard" reflectors may be best, as their beams hold together and carry better. Professional cinematographers, by the way, have sometimes been known to use reflectors in relays for this sort of a shot, tossing the light from one reflector to another until it reaches the place where its help is needed! This is rather of a trick, though, and I wouldn't recommend trying it until you're very sure you understand reflectors and their use.

Another trick studio cinematographers perform with reflectors is to make them provide back and rim-lighting. One of the illustrations shows this rather well. You will notice that in the right-hand picture of Faith Dorn the sun provides a high back-lighting, but there is a strong rim-lighting on the left side of her face. This came from a "hard" reflector placed at that side, throwing back a strong beam of reflected light. The right side of her face, which would ordinarily be in shadow, is lightened up by the use of a "soft" reflector on that side, and somewhat farther back.

You can use this same principle to obtain an effective back-lighting, too. Your subject, let's say, is facing the sun, giving a flat front-lighting to his or her face. Now place a reflector—a "hard" one—behind him (if your camera-angle permits doing it without getting it in the picture!) and you'll add a nice, outlining back-lighting. And if you can't manage it with one reflector, you often can with two. Place one at each side of and behind your subject, just out of the camera's field, and they'll throw back a strong outlining back-lighting which is most effective.

If you'll study the exterior shots in almost any well-photographed studio film, you will notice that almost always the natural, direct lighting on the people is soft and diffused, and that the facial modelling has been done either by reflected light or by "boosters"—studio lighting units used in place of reflectors. This is done purposely, because it makes for better photography.

Professionals usually use a "scrim"—a doubled layer of fine black netting either suspended above the players, out of camera-range, or stretched over a big wooden frame and held vertically between the players and the direct sunlight. This sort of thing is rather too cumbersome for most amateurs, though some of the clubs that go in for collective shooting of scenario productions might find it worthwhile. But for close shots, there's a gadget any amateur can easily use which will fill the bill excellently.

Do you remember in some of the old-time still "portrait galleries" the round diffusing-screens they used to use? They were usually hoops two or three feet in diameter, covered with several layers of dark netting, and mounted either on a stand with a double-jointed arm or a flexible-tube goose-neck which permitted the diffuser to be angled to any desired position. If you keep a weather eye out among the photo-supply stores that do business with professional portraitists, you can often pick up one of these gadgets very cheaply, second-hand. Or you can build one without much trouble or expense.

When you shoot close-ups—especially of a pretty girl—try using one of these scrims. Place it so it comes between the girl's face and the sun, well out of camera-range, and shading the face from all direct light. What remains will be a good deal like the pleasingly soft light you've encountered on slightly cloudy days. Remember what nice face-modelling that sort of light gives—? Well, using a scrim you can get it every time, and then add to it by using reflectors for modelling, back-lighting, and so on. Try it—you'll find your close-ups will be much more flattering with this sort of lighting!

Exposure when using reflectors should not be a particularly serious problem, for in most instances an overall reflected-light reading with any good, photoelectric exposure-meter will give the right answer. But balancing the reflector-filled shadow-side to the highest-side is more of a problem. In general, to get an effect of a natural, "open" shadow, you should have about half as much light in the shadow as in the highlight. While you're learning how to use reflectors, you'd better let your meter help you with this. Take separate readings on each side, coming in close enough so you're sure the meter is scanning only that part of the field you want a reading on—and being sure, too, that your own shadow (or that of the meter) isn't blocking off part of the direct or reflected light whose value you're measuring. Increase or decease the illumination of the reflector-lighted area by moving the reflectors in or out until you've obtained the desired balance. Then you can either take an overall reading to obtain your proper diaphragm setting, or follow the old, old photographic rule of "expose for the shadows, and let the highlights take care of themselves." I think generally, though, the overall reading will be better unless you are using an illumination balance such that you can be sure your highlights won't be "washed out."

Incidentally, in exposing Kodachrome this way, you will want to have rather more light in your shadows than you would in black-and-white, for Koda-

chrome, like any color process, has far less latitude than black-and-white, and highlights in Kodachrome "wash out" very easily—and unpleasantly. You may have to watch the highlights when you're using some of the faster black-and-white emulsions, too, building up shadow-illumination so that your contrast-range is safe.

Sometimes, if you have a large expanse of brightly sunlit background behind your people, it may be a very good idea to take a meter-reading of that background alone, and then manipulate the reflected light on the people until it balances safely with the brilliant background, and you'll avoid having correctly-exposed people and a burned-up background or vice-versa. This is especially a point to watch when your people are in the shade or under a scrim, and the background is in open sunlight. But between reflectors and intelligent use of the meter you can control almost any photographic situation. You'll even be surprised how much light a good reflector can kick back on cloudy days, when you wouldn't expect it to be of any use at all!

So we've gotten around to the point where we started: reflectors *do* give the movie-maker something very closely comparable to the still-photographer's synchro-flash photography. In fact, the reflector has two real advantages: by using two or more reflectors, you can get lighting-effects your still-man friend can't get unless he uses a tricky multiple-flash set-up. And besides, he has to pay for his flash-bulbs, whereas your reflectors, once built, don't cost anything to operate, for Old Sol furnishes your light with no charge—except an occasional touch of sunburn! END.

Mistakes

(Continued from Page 330)

feet or under—the finder will give you quite a bit more head-room than actually exists, if it's on top of the camera, or will see more to one side or the other than the lens does, if it's mounted to one side of the camera.

Professional finders have adjustments that automatically compensate for this as the focus is changed, either by pivoting the finder, or through automatic sliding mattes. You can fit a gadget like this on an amateur camera, but it's quite a bit of a job. You can also make accurate tests and rule guiding lines for close work on the lens of your finder. But a very simple way to at least minimize this mistake is merely to provide yourself with a little reminder to watch out for this trouble in close shots. Simply stick a narrow strip of transparent, colored Scotch tape on your finder—at the top, if the finder is above the lens as in an Eastman camera, or to the left, if the finder is on the left side as in many Filmo models. With the large finders used on some sixteens, the Scotch tape strip should be about an eighth of an inch wide; with a smaller finder, about half that.

In making long-shots, the transparent tape won't interfere at all with the normal use of the finder. But as you come in closer, that little colored edge will remind you of the danger: use the inner edge of the colored mask as the boundary of your field on that side in shots closer than, say, eight feet, and you'll eliminate this scalping trouble nine times out of ten.

Probably all of us have made lovely shots—without remembering to remove the rubber lens-cap from the camera. If you have a camera like the Filmo Turret 8 and other similar ones which are fitted with matched positive viewfinders, you can work up a simple gadget that will minimize this mistake. Several manufacturers make lens-caps fitted with a little rubber tab which is supposed, at least, to project into the finder's field and tell when the lens-cap has been left on. Take two of these, of appropriate sizes, and cement their projecting tabs together so that when the camera lens-cap is on, the other cap can be fitted over the finder-lens. This way, when you take off the finder's lens-cap, you've got to remove the camera lens-cap which is cemented to it. And if you swing your turret to bring a different lens into place, and then look through the capped finder and see nothing but blackness, you can be sure you're going to get the same effect on the screen, since both of the lens-caps are on! END.

F. J. Mortimer, the well-known British photographer, has been re-elected President of the Royal Photographic Society.

Professional Quality

(Continued from Page 333)

sunlight, in fact, the needle usually runs off the top end of the meter scale if this is tried, and it is consequently essential to cut down the reading to give a direct stop number which can be used on the camera. This may be done either by a neutral grey filter (which does not cut down the angle over which the instrument reads, and thus makes a large white sheet of paper or card necessary), or by masking the cell of the meter itself as shown in Fig. 1. These masks are made as described below, to a suitable size.

Before dealing with this point, the practical points connected with meter readings must be mentioned, so that the instructions have been set out below in conjunction with those for altering the meter. It is important to remember that *consistency* in exposure is the most important essential; if consistency is achieved, any slight general variations from the required screen brightness level can be put right in a few moments.

Thus—

1. Choose a piece of stout blotting-paper or sand-blasted white celluloid for the artificial high-light. (The latter is more durable and can be washed if it gets dirty.)

2. Holding the artificial high-light in the left hand, take the meter in the right hand, and place its front end on the left thumb as in Fig. 2. The front end of the meter should just touch the white surface. This is the standard position for meter and card when taking a reading.

3. Turn the meter and the artificial high-light together, without altering their relative positions, until the maximum scale deflection results, and then tilt the card slightly back and forward to make sure that a higher reading still cannot be obtained. If such a higher reading results, it must be used. Always take care that the body and head are not shading light from the white card used.

4. Strictly, the reading should be made in the position of the subject, but for most outdoor work it is quite accurate enough to take it while behind the camera.

5. Where no sun is falling, let the artificial high-light face so that the light from in front of the subject strikes it, and take a reading in that position.

6. Under trees, and where the light varies from point to point, the reading should be made in the actual position occupied by the subject. This is also necessary in artificial light work.

7. If the sun is behind the subject so far as the camera is concerned, a normal run reading will make the face tones dark and shadowed and the background will more or less match that in other shots. If the face tones *must* be matched, read as under (5) above, but remember that the ground will be so light that much of it may be burned-out and show no detail. (This last is really a special effect subject.)

8. Make a speed test to adjust the exposure meter, as follows:

(A) Load 25-30 feet of film into the camera.

(B) Take the sun reading on the scene for the test.

(C) Divide the stop number obtained by 3 in the first place as a general guide. (Thus, if the meter read f:32, use f:11, the nearest stop number to 1/3rd of 32.)

(D) Say the result is f:11, expose short lengths of film at f:4, f:5.6, f:8, f:11, f:16, and f:22.

(E) Repeat this process, A to D inclusive, on three other subjects, making the conditions as varied as possible, and always including one scene in which no sun reaches the subject.

(F) Return the film for processing with the request that it is not compensated, but treated by time and temperature only.

(G) Project the film under normal conditions on its return, and decide which image of the test is to be preferred in each scene. It is essential to disregard contrast and to look only at the lighter face tones for this purpose, and it will be found (assuming the film stock to have an anti-halo backing—no other is really useful) that in each case the preferred image has some definite relation to the original meter reading. If it is found that some scenes apparently need one stop exposure more than others, then the meter is not working correctly, or else the face tones have not been sufficiently carefully examined.

(H) Having ascertained how much difference there is between the original meter reading and the preferred exposure level, make a mask which covers the cell of the exposure meter and reduces the reading in each case from the original high value to this new correct stop number. It is simplest to choose a sunny day with constant light, and then make the hole in the mask too small, snipping the edge out bit by bit until the correct reading has been obtained.

(I) Remember that this speed test is valid for daylight only, and that another will be required for artificial light. File away the film for reference, and do not scrap it. *This is important.*

A number of small points may also be mentioned. If the meter is suitably masked, its angle of field is considerably reduced, and a small artificial high-light can be used. 4 x 6 inches is usually amply large enough, and this size can usually be fitted comfortably into the camera case.

Once the meter has been masked so that it reads at the correct and chosen level, it is not necessary to change unless the film alters in speed or the meter goes out of order.

There is no need to apply any correction to the readings given by the masked meter and artificial high-light, except under the following conditions:

Snow scenes, titles, newspapers, and the like—reduce the stop by one division on the scale. This is necessary since our usual standard of screen brightness makes a face much lighter than in real life, and anything very light in tone tends to burn out. By applying the above correction, everything is made slightly darker, and the details in a snowy landscape become visible. (It is usually noticeable in all snow exposures that human faces seem very sunburned and much darker than usual, for just the above reason.)

Filters are dealt with in the usual way, by opening the stop up according to

the filter factor. No correction is made for long-shots, mid-shots, and close-ups, although it is usually advisable to use a heavy filter in telephoto lenses in order to make the image have a better contrast.

Editor's Note: This is the first of a series of articles on exposure and exposure-metering by P C Smethurst who is one of England's leading authorities on exposure-control with professional and amateur films Further installments, which will be published in forthcoming issues, will deal with subject and lighting contrast artificial-light readings, and similar important details.

Color Composition

(Continued from Page 335)

maker endeavors to modify and subdue this brilliance, his films will contain glaring combinations that worry the visual sense and irritate the nervous system. Many times the writer has sat through a program of amateur colored films which have made the eyes tired and produced a headache and slight squarmishness.

Modern Technicolor films do not always have this effect. Most professional producers have realized that moving pictures have an unpleasant effect if they contain glaring combinations of colors, unreal colors, or changing scenes that are not harmonious They arrange color as carefully as any other part of the film, and the change from medium to close-up in following shots have the same color composition

The Metro-Goldwyn Mayer film "Sweethearts" contained some of the best color continuity I have seen to date, and two adjoining scenes in this film will explain what is meant. Nelson Eddy is seen in the background singing into a microphone, in the center of the foreground is a girl wearing a blue hat. The next scene shows a closeup of Nelson Eddy wearing a blue shirt of the same hue, placed in the same position on the screen as the girl's blue hat was in the preceding scene. Artistic color-continuity was used throughout "Sweethearts" and was a lesson to all amateurs and most professionals

The artists who prepared the color plan for this film understood a physical law known as "after-images". These "after-images" are caused by eye fatigue. We know that if we look at the bright filament of an ordinary electric light, then suddenly turn from it and look at something less brilliant, we can still see the image of the filament. It does not immediately pass away, and is known as an "after-image". This excitation occurs in a mild form when we perceive each change of scene in a colored moving picture, and has the effect of making colors appear lighter or darker than they actually are. This is the point that interests movie-makers: if we tire the eye with a brilliant color—orange for example—in one scene, then follow with a cut to a bright blue (the complement of orange), this second color will appear brighter This proves that the appearance of each color in a scene depends on the "after-image" formed by the preceding scene.

These remarks on "after-images" are included to stress the point that large masses of brilliant colors should be avoided and that some effort should be made to match colors that appear in particular spots of successive scenes. Amateurs are not always in a position to arrange sets as professionals are, but if they are filming a story that contains characters, color-continuity can be picturized in the choice of costumes, locations or even props.

When the film is to be a scenic, holiday or documentary, harmonizing colors is more difficult, but the amateur can try, and sometimes this result will be attained. If it is thought necessary to splice two scenes together that differ in color-continuity, it may be possible to separate them with a title, thus detracting the attention of the audience to the abrupt color-transition.

When we become color-conscious we learn that even on brilliant cloudless days, the light we know as white light varies in color. Hot days might contain a slight haze, smoke or dust in the atmosphere, which affects every color, while the first fine day after rain will cause each object to appear brilliant and the sky will be a deeper blue This variation will be noticed if a sequence contains more than one day's shooting, or if successive scenes appear on the screen that were filmed at different periods of the day. To overcome this difficulty we must try to shoot each scene in the sequence that will appear on the screen.

Another word of warning about matching of colors. The development of color-film is intricate, and the slightest variation in the dyes used when the film is being processed will affect the reproduced color-values. Therefore it is advisable to have each sequence shot with one batch of film and processed together.

Another discovery professional production-companies have made is that we, as the public, are not always anxious for colored features; we like a few colored shorts on the program, but can tire of lengthy colored films. It is doubtful if an exhibitor would risk a whole program of colored films, yet some amateurs use nothing but color, unmindful of the fact that millions of people have proved to professional producers that the use of colored film is limited and that a good story is not necessarily strengthened by the addition of color.

When the serious amateur learns to appreciate the limitations of color and profits by the experience gained by professionals, it is my opinion that he will return to black-and-white film for most of his pictures, and use color film not just because it is color but because it is needed to make a particular story more forceful.

The writer suggested to amateurs in a previous article on picture composition that they take a walk through the local Art Gallery when in a reflective mood. Again the suggestion is made, this time they are asked to notice that artists do not choose subjects merely because they are colorful. You will not see picture after picture of sunsets and

people walking around beds of flowers. Artists choose scenes firstly because they tell a story, secondly because they have picture composition. Each scene depicts a time of day that does not have either contrasting lighting or contrasting shadows. If your Art Gallery contains work by some of the great Masters, you are indeed lucky. If not, look round for some of their work which has been reproduced. Prints known as Medici Prints are sold in all English-speaking countries and many reproductions of masterpieces can be bought for a small outlay. A landscape painted by John Constable titled "Flatford Mill" should have particular appeal to amateur cine color-workers. In general, any original or reproduction of paintings by Constable, Corot, Whistler or Turner, are recommended.

It is an optical law that different colors in one scene will focus on different planes if a lens has not been designed to correct this fact, which means that a cheap, inferior-class lens will not show texture and detail in all colors, but good high-class lenses are color-corrected and give maximum sharpness over the whole area of a picture and are essential for all color work. But they must be kept clean!

Most titling technique used for black-and-white filming is adaptable for color-work, but backgrounds for colored films should not be vivid or even brilliant: they should be of a pastel shade, preferably of the predominating color in each of the scenes the title is to separate. White letters on simple backgrounds which do not attract attention are best. Titles may be superimposed if the letters are written on a black background, photographed, the film removed from the camera, rewound in a dark room and again exposed on a suitable background, or the titles may be lettered on clear celluloid and placed over a background that might be used throughout the whole set of titles. Black or ornate backgrounds should be avoided.

If a film has been shot with regard to color-continuity, it will be easier to edit than a collection of snapshots. Most editing and titling technique used for black-and-white films is adaptable to color pictures, but more care and thought are necessary. White cotton gloves are recommended, as color-film seems to attract finger-prints, and the slightest scratch will reveal an unwanted colored flash on the screen.

When cement is applied to a join it should be left to dry thoroughly before the film is wound on a spool. Wet film-cement should not be allowed to come in contact with the surface of color-film, otherwise it will dissolve its first layer and cause an unwanted red flash to appear on the screen. Be economical with film-cement. Be sure that the scraper does not remove more emulsion than is required to make a perfect lap, and that the blade or file is set deep enough to remove *all* layers of color. END.

Summer Camp

(Continued from Page 336)

jinks around the blazing campfire, put on special Saturday-night shows with camp-recruited talent in dining-hall or playhouse. And if there's electricity available to power a projector, a split-reel camp movie, perhaps a simple scenario enacted by campers, burlesquing camp routine and personalities, could be a real entertainment high-spot. With a little undercover rehearsal, such a film could even be made a talkie, with the players reading their lines from behind the screen. If it got "out of sync" the effect would still click with a carefree audience bent on amusement rather than technical perfection!

As a matter of fact, one of the best amateur scenario-films ever made was filmed in a summer camp. It was "Tarzan, Jr.," with which William A. Palmer and Ernest Page captured the Grand Prize in the first AMERICAN CINEMATOGRAPHER International Amateur Movie Contest, nine years ago. It told of a small boy's summer in camp, and how even though he was perpetually slighted and razzed by thoughtless older campers, he eventually came through the hero of the lot. In it, one of the older boys brought his movie camera to camp, and conceived the idea of making a movie; so much of the footage was devoted to comedy scenes burlesquing Hollywood as the youngsters made their own version of "Tarzan," with the wistful little hero always hoping for a chance to run the camera, but never getting it until, after the last shot of the camp epic is finished, he is condescendingly allowed to carry the camera

back to camp. En route hack, as he pretends for a moment to he shooting the camera, he and his faithful dog have an exciting hrush with two tough-looking adults. The climax of the film is reached with the presentation to an audience of campers and guests of this film-within-a-film—very cleverly handled, too, hy the way—and the screening of the young hero's accidentally-made shots of the toughs, who are recognized hy the local Sheriff as badly-wanted hank robbers. And the final fade-out, of course, shows the youngster, reward-money in hand, going into a photo-supply store to purchase a camera.

The two young chaps who made that picture simply fictionized events which might very easily happen in a summer camp. They made a story out of it which has interested audiences all over the world where the film has been screened for movie clubs and similar groups. But they did more than that: they made a record of the places and personalities they knew during their summer in camp—sugar-coating it, perhaps, with fictionized entertainment—but a record, none the less, which helps them re-live a very happy summer, strengthening memories of fellow-campers who have since grown up and scattered, as might be expected, all over the four corners of the nation. But on the screen they live and move again—not merely standing around and looking embarrassed, but doing things that are interesting and characteristic. And that, no matter how you may disguise it with fictional or serious documentary embellishments, is what makes a well-made camp movie worth making—and increasingly well worth owning in years to come. END.

Idea Exchange

(Continued from Page 339)

to which the three legs are pivoted. The disc has three projections, each one of which, as shown in the sketch, fits between a pair of the wooden members forming a leg of the tripod. I attached this disc permanently to the tripod; with some types this can be done very easily, hy boring a ¼-inch hole in the center of the disc, and using a slightly longer ¼-inch holt in place of the one which holds the tilthead on the tripod.

I completed the gadget by inserting a strong metal rod through the tripod-legs, as shown, a few inches from the top. The positioning of these rods governs the maximum spread possible with the tripod's legs. In use, you simply open the tripod-legs until the metal rods hit the projecting corners of the wooden block; the legs can't spread wider than this, and accordingly can't suddenly slip or spread and spill your camera.

JACK MAZZARD.

Central Camera Co., of Chicago, has just issued its new summer catalogue, a free 64-page booklet of bargains in cine and still cameras and equipment.

Showcase

(Continued from Page 341)

The complete set consists of 44 double-faced 10-inch records, and is known as Set E-66, and lists at $50. The individual records may be purchased for $1.50 each.

The records are 10 inches in diameter, with the same recording on both sides, thus giving the advantage of double wear and, incidentally, eliminating the confusion of accidentally putting the right record onto the turntable in a darkened projection room—and putting it on wrong-side up! The recording has been done at the standard home-phonograph speed of 78 r.p.m., and the individual effects vary from one to 3 minutes in length, depending on the character of the effect involved. The effects are separated by a blank space so that the operator can pick out the desired sound-effect without difficulty.

Since these records were made primarily for use in broadcasting stations, theatres and the like, there appears to be no restriction as to public or commercial use of these recordings They may be obtained directly from RCA-Victor, or ordered through any RCA-Victor dealer.

Vaporated Films Survive Fire and Water

Four reels of motion picture films were in the State District Health unit at Mt. Sterling, Illinois, when the offices were destroyed by fire in January, 1940 The films were in metal containers so the flames didn't touch them, but the cans were blackened in the fire.

Three of the reels were Erpi Classroom Films, and were Vaporated for Erpi before delivery to the Health Department. Untreated inner and outer leaders were attached to these films after they arrived in Illinois.

The leaders, both inner and outer, were ruined by heat and water. The Vaporated films on the same reels were not damaged in any way. They were put back in circulation, and according to the Vaporate Co., have continued to give satisfactory service.

Royal Tripod Improved

A number of important improvements have been incorporated in the 1941 model of the Royal Tripod, according to Albert Specialty Company, the manufacturers, The Royal now features a new plastic cap on the head. Besides providing a non-slip base for a camera, this blue-black head improves the appearance of the tripod and adds an interesting color contrast with the chrome finish of the tripod legs. The tilt head has been redesigned in the interest of greater utility. It is now provided with an adjustable camera screw which can be lengthened or shortened to accommodate camera screw sockets of various length.

When cutting off short lengths of 35mm. minicam film for immediate processing, waste will be prevented if the original leader strip is cut from the exposed portion and cemented to the unexposed portion, all in the dark, of course. Several of the types of film-cement sold for substandard cine use will work well on the 35mm. nitrate film for this.

A SCENARIO FOR
STARRING YOUR SMALL BOY

By PAUL W. CRAMER,
L. A. 8mm. Club

EDITOR'S NOTE: This production-tested scenario proved its merit by winning its maker First Prize in the Los Angeles 8mm. Club's recent uncut film contest. As Cramer filmed it, "Never Again" made an excellent 50-foot 8mm. reel with sure-fire audience appeal. We like it particularly because it can be filmed very easily, with a minimum of characters, props and similar problems. It is also a very good object-lesson in the importance of keeping a character's motion across the screen consistent until be is shown turning or otherwise given a definite reason for moving in another direction. Notice how the little boy moves from right to left until a change of camera-angle has him coming straight into the camera, and then after his smoke, he goes from left to right, after which his father carries him back to the house, moving in the opposite direction—i.e., from right to left—on the screen.

MAIN TITLE
"NEVER AGAIN"

Scene 1: Long-shot. Two men come out of a cafe.

Scene 2: Two-shot. One man offers the other a cigar. The second man refuses the smoke, and starts to talk, pantomime indicating height of a small child—

TITLE:
"WHEN I WAS ABOUT NINE YEARS OLD, ——"

Scene 3: Medium-shot of a small boy in overalls, standing beside a table on which may be seen an old-fashioned kerosene lamp and a box of cigars. He looks furtively about, to see if he is observed, and takes a cigar from the box.

Scene 4: Close-up, from slightly low angle, of a kitchen shelf. On it may be seen a can of preserves, pepper and salt-shakers, etc., and a box of matches. The boy's hand reaches up and takes a handful of matches from the box.

Scene 5: Long-shot of the boy sitting on a farmyard fence; horses, etc., in the background if possible. He pretends to smoke the cigar. Finally he jumps down from the fence and exits left.

Scene 6: Long-shot. The camera follows the boy as he walks under trees, going from right to left.

Scene 7: Long-shot. The boy enters in the background, under a framing arch of trees, and advances, cigar in mouth, to the camera until a close medium-shot angle is reached. He looks around to see if he is observed, then exits right.

Scene 8. Long-shot, in farmyard. The boy enters from left, camera following, and he finally seats himself on a box concealed by a handy fence. He puts the cigar into his mouth.

Scene 9: Medium close-up of the boy. He scratches a match and lights the cigar.

Scene 10: Close-up of boy, smoking. He is a bit nervous. FADE OUT.

Scene 11: FADE IN. Same as Scene 10, but the cigar is half smoked away, and the boy looks rather distressed. He becomes increasingly so as the scene progresses. Finally he gets up and exits to right.

Scene 12: Long-shot. The boy staggers unsteadily away from the camera, moving from camera-left to camera-right.

Scene 13: Medium long-shot. Walking slowly and unsteadily, the boy approaches the camera. FADE OUT.

Scene 14: FADE IN. Close follow-shot of the boy, moving from left to right, still smoking the cigar, but without much pleasure. Finally he leans against a fence, quite exhausted.

Scene 15: Long-shot. The boy wanders slowly and very unsteadily across the farmyard, slowly approaching the camera. Finally he collapses across the tongue of a hay-rake or similar implement in the foreground. FADE OUT.

Scene 16: FADE IN. Long-shot. Father is seen carrying the limp form of the boy, moving toward the camera and from right to left.

Scene 17: Close-up of the boy in bed. A feminine hand puts a cold compress on his forehead.

Scene 18: Close-up of a bottle prominently labelled "Castor Oil." Feminine hands uncork the bottle and pour out a big tablespoonful. (Note: White "Karo" syrup doubles excellently for castor oil in this scene, and will get much better cooperation from your young actor!)

Scene 19. Same as Scene 17. Mother's hand enters with the spoonful of castor oil and administers it to the boy. His facial grimaces show what he thinks of it!

Scene 20: Big-head close-up of the boy. He looks wan and unhappy, and his lips move.

TITLE:
"NEVER AGAIN!"

Scene 20-a: Same as Scene 20. The boy finishes speaking. FADE OUT.

Scene 21: FADE IN. The two men shown in Scenes 1 and 2 are walking along the sidewalk, smiling and talking. They approach the camera, still talking, as the non-smoker obviously finishes his story. FADE OUT.

TITLE:
THE END.

The lens plant of the Eastman Kodak Co. has developed a new type of optical glass reported to have an unusual refractive capacity. Instead of the silicates heretofore used, such rare metals as tantalum, tungsten, lanthanum, etc., are used in making the glass. Lenses made from it are reported to require far less curvature and to procure better definition and covering-power with no loss of lens-speed. The new glass has been used in aerial lenses made for the government during the past year, but some time may elapse before it is available for general photographic use.

Plan For Sound

(Continued from Page 331)

fessionals did, and go to sound-on-film recording. This is at present only possible in 16mm.

Recording direct-synchronized sound is outside the scope of this present article, though with a recorder like the Auricon, for example, it isn't by any means beyond the skill of the amateur who wants to acquire the necessary equipment. But sound can be added to any 16mm. film *after the film has been processed and edited.*

To do this, you simply take your edited film to any of the several 16mm. sound-recording studios in various parts of the country, and record your musical score, sound-effects and narration with projector and recorder operating in synchronism. A positive print is then made of this sound-track record, and sound and picture are "duped" to a third film to form your composite sound-and-picture projection film. This naturally adds to your expense; putting sound to a 400-foot reel of 16mm Kodachrome costs slightly over $100. but you then have a perfect sound-film reel in color, which can be run on any 16mm. sound-film projector, and will always be perfectly in sync.

It is interesting to note that over in England, just before the war, a special 16mm. sound-system for home use was developed with the aim of eliminating the extra cost of making the composite sound-print which adds so much to the cost of substandard sound-filming. This device consisted of a special base upon which a Bell & Howell sound projector could be mounted, and which was fitted with arms to hold extra feed and take-up reels. In use, the silent picture-film was threaded through the picture projection mechanism in the usual manner, and taken up on the auxiliary take-up. The sound track film was placed on the extra feed spindle and threaded past the sound aperture to the projector's regular take-up. If both were started at marked starting-points, both would naturally stay synchronized from start to finish. The sponsors of this system claimed, too, that sound for use with it could successfully be recorded and reproduced at the silent-picture speed of 16 frames per second instead of the usual 24-frame sound speed. While offhand it would seem that with the film moving at this slower speed there would be quite a loss in the high frequencies and hence in intelligibility and quality, there would certainly be a saving in film-footage which would be welcome to most home-movie makers. There would also be the advantage of being able to add sound to films shot at silent-picture speed without unnaturally speeding up the action as is the case when pictures shot at 16-frame speed are projected at 24 frames.

But regardless of what method of adding sound to your films you may choose, you'll get better results if you plan your films for sound beforehand, rather than shooting haphazardly and adding sound as an afterthought.

Speaking generally, you'll find it a good idea to make your scenes a bit longer than you would for a silent picture, and also, to cover each place or action with especial thoroughness, getting plenty of different camera-angles for use in cutting.

The reason for this is that shooting this way, you can be more sure of having sufficient picture-footage of each place or action to synchronize well with the narration describing it. After all, if you're going to the trouble of sounding a picture, you don't want to have scenes

FOOTAGE, SCREEN-TIME AND NARRATIVE WORDS

8mm	16mm. 16-speed	16mm. 24-speed	Time Minutes	Time Seconds	Maximum Number of Words
1 feet	2 feet	3 feet		5	12
2 "	4 "	6 "		10	25
3 "	6 "	9 "		15	37
6 "	12 "	20 "		30	62
12 "	24 "	40 "	1	00	164
25 "	50 "	77 "	2	05	325
33 "	66 "	100 "	2	10	416
50 "	100 "	150 "	4	39	650
128 "	256 "	385 "	10	40	1603
200 "	400 "	600 "	16	47	2724

so short that the narrator can speak only a dozen words while they're on the screen but which call for twenty-five or thirty narrated words for proper description! My suggestion would be to plan for a *minimum* scene-length of 10 seconds (more is even better). This means 2 feet of 8 mm. film, 4 feet of silent-speed 16 mm., and 6 feet of sound-speed 16mm.; it gives the narrator time to speak about 25 words. The accompanying table will help you reduce scene footage to narration wordage for any method of sounding. Bear in mind, though, that it shows the *maximum* number of words: an ordinarily slow talker won't be able to get nearly as many words into a given time as the table indicates. You should also plan for definite pauses in narration between sequences, etc.

If your film is going to be a record of a vacation trip, it is a very good idea to make notes of all the interesting facts about the place before you shoot. This pays dividends in two ways: it gives you information you'll need when you come to plan the narration, and it can also give you useful advance information as to the interesting things to shoot in that locality.

Speaking generally, you'll find it a good idea to shoot your scenes long, as suggested, and plenty of them. Then when you come to edit your picture, assemble them roughly, without any attempt to shorten or intercut them. Now run your sequence and time it, figuring out how many words you can get into that much running-time. Then map out your narration, keeping within that maximum number of words, and covering the subject completely. When this is done, you can then finish editing the sequence, shortening and intercutting scenes for maximum effectiveness and fitting the succession of pictures to the narration. You'll find it's much easier to build a sound sequence this way than to attempt to fit narration to a picture-sequence which may be too short, too long, or wrongly edited for the explanatory wording which must accompany it!

Obviously, too, if you are going to use 16mm. sound-on-film recording, you should plan for it ahead of time and shoot your picture at 24-frame speed so the action will be normally paced when run on a sound projector.

If you are shooting Kodachrome for sound-on-film use, look ahead to the fact the film will be duped, and expose so you can be assured of the best results in that dupe. Overexpose a trifle, to give the open shadows and soft colors and contrasts that make the best dupe. The easiest way to do this is to use a meter speed-setting one or preferably two points below the one you'd ordinarily use for Kodachrome—with a Weston, 6 or 5 instead of 8.

But, no matter which method you may decide to use, try adding sound to this summer's vacation films. Hundreds of cinefilmers all over the country have tried it, and discovered that not only does it add measurably to the effectiveness of their films, but it opens the way for new pleasure in the hobby of making and showing home movies! END.

Photograph of the Month

(Continued from Page 327)

THE PARSON OF PANAMINT

Paramount Production.

Director of Photography: Russell Harlan, A.S.C.

"The Parson of Panamint," though laid in a western locale, is not a "western" in the accepted sense of the term. Therefore cinematographer Russell Harlan, A.S.C., does not get the conventional "western" pictorial opportunities for effectively-filtered scenes of fast-shooting riders silhouetted against pictorial clouds, and the like. But he does get abundant opportunities for interior effect and character lightings, which he does with uncommon skill. His treatment of the film's actually rather plain and inexpensive interiors adds greatly to the film's production value and dramatic strength, while his treatment of the players—especially Ellen Drew, who seems to be improving photographically with each appearance—is first-rate.

The film has some interesting process work, especially in the way process-shots and location exteriors are skillfully intercut.

Direction is another noteworthy feature of the production. It makes use of visual tempo and visual dramatic tricks to a degree seldom seen in modern sound-films, and in this respect could certainly serve as an instruction-book for many a more pretentious production. In this connection it is more than ordinarily significant to observe that the director, William McGann, is a former member of the A.S.C.—a fact which bears out our contention that a world of invaluable director-material is going to waste behind the industry's cameras, while vast sums are being spent attempting to make directors out of raw newcomers from every other field.

THEY MET IN BOMBAY

Metro-Goldwyn-Mayer Production.

Director of Photography: William Daniels, A.S.C.

The name William Daniels, A.S.C., on the credit-title of a film is an almost unfailing guarantee of smoothly-finished photography to follow. "They Met in Bombay" does not offer Daniels the photographic opportunities that some of his other recent productions have, but none the less he makes it pictorially delightful. There are some extremely interesting and effect-lightings in the opening sequence in the deLuxe hotel in Bombay, and as the action moves on to the Chinese tramp steamer, Daniels has opportunities for many excellent atmosphera effects. His treatment of the concluding action-sequence is a model of tastefully conservative camerawork and restrained filtering which for its very unobstrusiveness deserves study.

Daniels' treatment of the players—especially Rosalind Russell—is excellent, as always. There are several special-process sequences which are definitely above the studio's usual average.

Academy Acoustic Bulletins

Two new bulletins dealing with sound-film acoustic problems have been published by the Research Council of the Academy of Motion Picture Arts and Sciences. One deals with acoustical design and construction of motion picture theatres. The other deals with reducing acoustic difficulties on motion picture sets.

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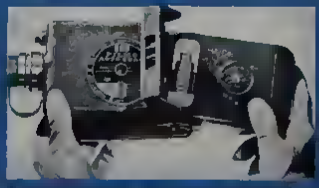

These three pictures illustrate one of the advantages of a turret head—readiness to take long shot, medium shot, and close-up in quick succession without moving from the most convenient position.

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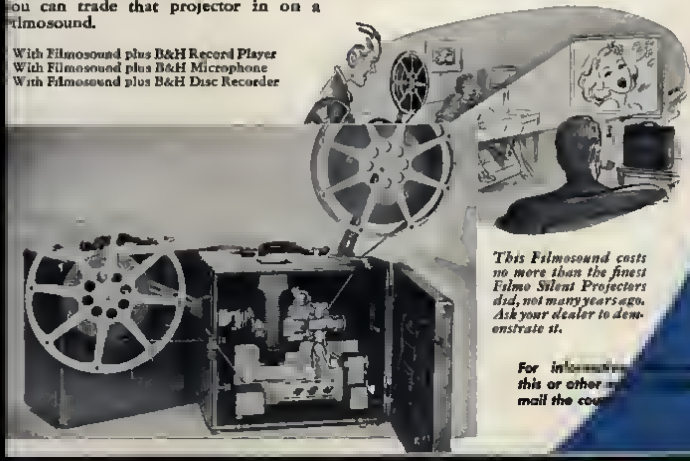

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